AUTHOR INDEX

Aaronson, S. A. 121, 127, 130, 131, 287, 293
Abdel-Latif, A. A. 287, 293
Abe, K. 193, 207
Abeloff, M. D. 74, 79
Abovich, L. 135, 148
Achstetter, T. 142, 150
Achterrath, W. 224, 253
Ackerman, P. 224, 253
Adadri, T. 193, 207
Adamietz, P. 358, 369
Adams, M. A. 193, 207
Aderka, D. 100, 104
Affara, N. A. 84, 91
Affolter, M. 109, 115, 118
Agarwal, R. P. 443, 454
Ahmad, N. 371, 385
Ahmad, S. 217, 221
Akerman, M. 438, 452
Alakhov, V. Y. 358, 362, 369
Albert, F. 382, 390
Alden, R. A. 15, 20, 27, 28
Alfrey, A. C. 317, 326, 340
Alhonen-Hongisto, L. 59, 62, 63, 74–76
Allan, J. 108, 109, 118
Allard, C. 405, 431
Allegra, C. J. 3, 12
Allen, L. B. 409, 432
Allen, W. 357, 369
Allet, B. 115, 119
Allis, C. D. 112, 119
Allison, J. P. 173, 189
Allred, L. E. 374, 388
Altschule, M. D. 341
Ambinder, R. F. 211, 220
Ananthanarayanan, M. 181, 191
Anderson, L. D. 375, 389
Anderson, R. G. G. 378, 390
Anderson, T. R. 375, 389
Andreoli, S. P. 317, 326, 340
Angus, C. W. 100, 103
Anstead, G. M. 15, 28
Anton, D. L. 44, 48, 54
Anwer, M. S. 173, 181, 189, 191
Aoki, K. 249, 255
Appella, P. 46, 54
Appels, R. 111, 112, 119
Arias, I. M. 181, 191
Armstrong, D. T. 371, 385
Arrow, A. S. 84, 91
Ashmun, R. 224, 253
Ashton, W. T. 443, 454
Ashwell, G. 193, 206
Askari, A. 298, 310
Assolan, R. K. 280, 286
Atmar, V. J. 61, 77
Atsumi, T. 414, 433
Auberger, P. 196, 207
Aurigemma, N. M. 316, 340
Avdalovic, N. 62, 76
Aviles, F. X. 108, 118
Aviv, H. 45, 54, 108, 118
Azizkhan, J. C. 251, 256
Azorin, F. 111, 112, 119

Baars, A. J. 212, 217, 220
Bababunmi, E. A. 331, 343
Babb, A. L. 316, 326, 340
Bachmair, A. 136, 149
Backer, J. M. 137, 149
Bacon, P. E. 439, 441–443, 445, 446, 453, 454
Bagnara, A. S. 300, 311
Baguley, B. C. 9, 13
Baker, L. H. 245, 255
Balaban, R. S. 318–321, 323, 325, 327–329, 341
Balboni, E. 336, 343
Balis, M. E. 439, 453
Ball, J. N. 371, 385
Baltimore, D. 257, 271
Ban, J. 408, 432
Bar-Sagi, D. 121, 130
Barbacid, M. 121, 130
Barde, Y. A. 359, 370
Bardin, C. W. 61, 62, 76, 77
Barlow, J. J. 246, 255
Barnabei, O. 83–91
Barrett, C. 181, 191
Barsky, H. 153, 161, 167
Barsness, L. 381, 390
Barth, C. 327, 342
Barto, K. P. 193, 194, 206
Bartus, H. F. 236, 255
Bates, R. W. 371, 385
Bauer, J. 193, 207
Baugh, C. M. 31, 38
Baulieu, E.-E. 145, 151
Bayley, H. 176, 190
Baylin, S. B. 74, 79
Bazgar, S. 83, 90

Beato, M. 279, 286
Becher, H. J. 406, 431
Bechtel, P. J. 373, 387
Beck, W. T. 224, 254
Becker, A. 173, 189
Beckstead, J. H. 381, 390
Beddell, C. R. 15, 20, 28
Bednarek, A. 266, 272
Beer, C. T. 373–376, 382, 383, 387, 388, 389
Beisiegel, U. 191
Bell, G. I. 373, 387
Bell, R. M. 121, 129, 131, 287, 288, 293
Bellentani, S. 181, 191
Bellusi, G. 373, 387
Benkovic, S. J. 28, 38
Bennett, K. L. 259, 271
Bennett, L. L., Jr. 439, 453
Bennett, R. A. 59, 69, 75
Benoit, M. C. 381, 390
Benton, D. W. 108, 118
Ben-Zeev, A. 145, 151
Bepler, G. 74, 79
Berczi, I. 373, 387
Berezney, R. 84–87, 91
Berg, P. 45, 48, 54
Berger, F. G. 62, 64–67, 71, 72, 76
Bergeron, R. J. 57–79
Bergmann, C. J. 121, 130
Bergmeyer, H. U. 311, 316, 340
Bergstein, J. M. 317, 326, 340
Berk, P. D. 184, 191
Bern, H. A. 372, 386
Bernard, B. 166
Bernet, A. G. 248, 255
Bernhardt, A. 64, 78
Berridge, M. J. 88, 91, 123, 125, 131
Berrios, M. 224, 253
Berry, M. N. 175, 190
Bertino, J. R. 3, 7, 8, 12
Bertrand, J. 173, 189
Besterman, J. 89, 91, 224, 253
Bethell, D. R. 43, 54
Betts, C. R. 410, 432
Beug, H. 115, 119
Beutler, B. 100, 103
Beutler, E. 402, 404
Bey, P. 64, 65, 66, 78
Bickel, U. 174–177, 181, 183, 190
Bihler, I. 211, 220
Billi, A. M. 84, 91
Billings, P. C. 142, 150
Binart, N. 145, 151
Bingel, M. 316–318, 326, 341
Birmelin, M. 193, 198, 207
Birnboim, H. C. 260, 272
Birnstiel, M. L. 115, 116, 119, 120
Bishop, J. E. 317, 341
Bishop, W. R. 121, 129, 131
Black, A. M. 15, 28
Blackmore, P. F. 154, 167
Blackshear, P. J. 383, 391
Blair, G. W. 240, 241, 248, 255
Blair, O. C. 428, 433
Blakley, R. L. 28, 38
Blankenship, D. T. 15, 16, 28
Blashke, T. F. 316, 340
Blin, N. 260, 272
Blitzer, B. L. 181, 191
Blocker, R. 440, 454
Blouin, A. 173, 189, 200, 208
Blumberg, P. M. 287, 288, 293
Bock, E. 358, 368, 370
Boden, G. 99, 103
Boen, S. T. 314, 340
Bogaerts, G. B. 345, 348, 352, 353
Bohlen, P. 61, 76
Bohm, L. 109, 118
Bolander, F. D. 376, 389
Bolender, R. P. 173, 189, 200, 208
Bolin, J. T. 15, 20, 27, 28
Bolkenius, F. N. 57, 75
Bolton, W. E. 282, 286
Bomber, A. M. 217, 221
Bond, M. 331, 332, 343
Bonneterre, J. 374, 388
Bontemps, F. 297–311
Bonting, S. L. 375, 388
Borch, R. F. 213, 220
Borchardt, R. T. 54, 362, 370
Borel, J. F. 373, 387
Boritski, T. J. 223, 250, 252, 407, 432, 449, 454
Borst, P. 251, 256
Bortell, R. 71, 79
Borun, T. W. 107, 118
Bos, E. 108, 118
Bos, J. L. 121, 130
Boschek, C. B. 173, 186, 190
Botstein, D. 223, 252, 260, 272
Bouma, J. M. W. 193, 207
Bourne, H. R. 121, 130
Bourrett, L. 137, 149
Boutwell, R. K. 390
Bouwer, H. G. A. 373, 387
Boyce, R. A. 247, 255
Boyd, A. E. 282, 286
Boyer, J. L. 175, 178, 181, 190, 191
Boyns, A. R. 375, 386, 387, 389
Brachett, N. L. 378, 390
Bracquet, P. 207
Bradbury, E. M. 89, 91, 109, 111, 118, 120
Bradford, M. 358, 369
Bradford, M. M. 288, 293

Bradford, P. G. 121, 130
Bradley, M. O. 237, 238, 241, 248, 250, 255
Bradley, S. N. 121, 130
Braine, H. G. 211, 216, 220, 221
Brattain, D. E. 225, 254
Brattain, J. E. 225, 254
Brattain, M. G. 223–227, 229, 231, 233, 234, 238–243, 245, 247, 248, 250, 252–254
Braucher, P. F. 371, 385
Breimer, D. A. 212, 217, 220
Breistein, L. S. 374, 388
Brewer, C. F. 229, 254
Brezin, J. H. 317, 340
Brief, S. 373, 387
Briers, T. W. 345, 347, 348, 352, 353
Britten, R. J. 258, 271
Brock, K. H. 250, 256
Brock, W. A. 112, 113, 119
Brockman, R. W. 439, 453
Brockway, R. A. 297, 310
Brodie, B. B. 380, 390
Bronfman, M. 298, 310
Brookes, P. 212, 220
Brosnan, J. T. 304, 311
Brouwer, A. 198, 207
Brown, A. W. 176, 190
Brown, G. M. 12
Brown, N. C. 445, 454
Brown, N. V. 375, 389
Brown, P. R. 300, 311
Bruchovsky, N. 256
Brugger, E. 8, 9, 12
Brunengraber, H. 336, 344
Brutlag, D. 233, 255
Bryan, J. 227, 254
Buckley, A. R. 371–391
Bunce, P. L. 372, 386
Bunger, R. 316, 340
Burchall, J. J. 28, 29
Burdon, R. H. 190
Burgess, F. W. 297, 302, 310
Burke, P. J. 211, 220
Burns, W. H. 211, 220
Burridge, J. M. 15, 20, 28
Burritt, M. F. 333, 343
Burrow, G. N. 381, 390
Burton, F. H. 268, 273
Busch, H. 254
Buscher, H.-P. 173–192
Busslinger, M. 115, 116, 120
Bustin, M. 107, 111, 114, 118, 120
Butt, T. R. 146, 151
Buxton, D. B. 193, 207, 331, 343
Buzin, C. H. 142, 150
Byus, C. V. 380, 390
Cadepond, F. 145, 151
Calcutt, G. 217, 221
Calderon, C. M. 413, 432
Campagnari, F. 326, 342
Campbell, G. A. 372, 386
Campbell, H. A. 381, 390
Campbell, M. T. 409, 432
Canellakis, E. S. 61, 63, 71, 76, 77, 79
Canellakis, Z. N. 43, 48, 53, 61, 77
Canellos, G. P. 211, 220
Cantero, A. 405, 431
Cantley, L. 121, 129, 131
Capitani, S. 83–91
Carafoli, E. 330, 342
Caramelli, E. 84, 91
Carbonetto, S. 33, 39
Cardon, S. B. 372, 379, 386
Carew, J. A. 142, 150
Carl, P. L. 10, 13
Carlson, N. 144, 150
Carney, D. N. 74, 79
Carr, B. I. 186, 191
Carr, T. C. 155, 168
Carrera, C. J. 395–404
Carson, D. A. 302, 311, 395–404
Carson, R. E. 100, 103
Carter, G. L. 439, 441–446, 453, 454
Carter, S. K. 252
Casara, P. 64, 78
Casero, R. A., Jr. 43, 48, 53, 58, 65, 70, 71, 74, 75, 78, 79
Cassel, D. 358, 369
Cassidy, M. J. D. 317, 341
Castagna, M. 83, 90, 288, 293, 375, 389
Casteleyn, E. 193–208
Castro, V. 217, 221
Castro-Malaspina, H. 216, 221
Catelli, M. G. 145, 151
Cater, D. B. 373, 387
Caulfield, J. J. 376, 389
Cavalier-Smith, T. 257, 270
Cavalla, D. 16, 28
Cavanaugh, P. F. 64–66, 68, 69, 71, 78, 79
Cenedella, R. J. 93, 94, 96, 100–102
Cerami, A. 100, 103
Cerra, F. B. 193, 207
Chabanas, A. 115, 119
Chabner, B. A. 3, 7, 8, 12
Chafouleas, J. G. 282, 286
Chahwala, S. B. 121, 129, 131
Chakrabarty, S. 226, 243, 245, 247, 254
Chalkley, R. 111, 113, 114, 119
Chalmers, T. M. 100, 103
Champness, J. N. 15, 20, 28
Chan, S. J. 163, 168
Chance, B. 331, 342

Chang, C.-H. 438, 452
Chang, E. H. 121, 130
Chang, K.-J. 89, 91, 224, 253
Chapman, G. E. 109, 118
Chappell, J. B. 335, 343
Charcosset, J. Y. 224, 253
Chaudary, P. V. 259, 272
Chello, P. L. 4, 11, 12, 15, 28
Chen, A. 443, 454
Chen, G. L. 223, 227, 248, 252, 255
Chen, H. W. 373, 387
Chen, L. 87, 91
Cheng, S. 186, 191
Cheng, Y.-C. 13, 223, 250, 252, 437–439, 452, 453
Chern, J.-W. 443, 454
Chernick, S. S. 94, 101, 102
Chernyi, A. A. 358, 362, 369
Chesner, J. E. 173, 189
Chiang, H.-L. 137, 149
Chiu, I. M. 112, 119
Chomczynski, P. 375, 388
Chrinitz, J. L. 317, 340
Christman, K. L. 44, 45, 54
Chu, M.-Y. 443, 454
Chun, Y. 439, 446, 453
Ciechanover, A. 137, 141, 149, 150
Citron, B. A. 259, 272
Clapper, M. L. 217, 212
Clarenburg, R. 193, 206
Clark, J. L. 61, 63, 75
Clark, R. S. 65, 78
Clarkson, B. D. 216, 221
Clary, T. R. 94, 101, 102
Claverie, N. 59, 64, 69, 75, 78
Cleary, M. P. 93, 94, 102
Coburn, J. W. 317, 341
Cocco, L. 83–91
Cockroft, S. 121, 130
Coffey, S. D. 84, 91
Coffino, P. 61, 62, 76, 146, 151
Coghlan, V. M. 163, 168
Cohen, D. 259, 272
Cohen, J. B. 259, 272
Cohen, L. H. 110, 111, 119
Cohen, L. W. 163, 168
Cohen, M. B. 381, 390
Cohen, S. 277, 286
Cohn, R. 115, 120
Cohn, R. M. 112, 119
Cohn, V. H., Jr. 65, 78
Cohn, Z. A. 99, 103
Cole, K. D. 110, 111, 119
Cole, R. D. 114, 119
Coles, L. S. 112, 115, 119, 120
Coll, K. E. 330, 342
Collett, P. 317, 341
Colman, A. 116, 120
Colvin, M. 211–221
Comer, M. B. 258, 259, 266, 268, 271
Compton, M. 330, 342
Conners, T. A. 217, 221
Consigli, R. A. 142, 150
Cook, G. A. 324, 342
Cook, R. G. 112, 119
Cooke, C. A. 224, 253
Coolican, S. A. 153, 154, 160, 163, 167
Coombes, R. C. 374, 388
Cooney, D. A. 409–411, 432
Cooper, B. A. 29
Copeland, J. G. 372, 379, 386
Coppock, D. L. 146, 151
Corbett, T. H. 246, 255
Corkey, B. E. 330, 331, 342
Cornell, N. W. 324, 342
Corneo, G. 258, 264, 269, 271
Cornudella, L. 111, 112, 119, 342
Corti, A. 59, 60, 75
Cory, J. G. 12, 437–455
Costa, G. 93, 96, 101, 102
Costa, J. L. 318–321, 323, 325, 327–329, 341
Costa, M. 380, 390
Coulson, A. R. 265, 272
Coussens, L. 87, 91
Couturier, A. 83, 90
Covey, J. M. 224, 253
Coward, J. K. 59, 75
Cowie, A. J. 372, 386
Cowie, A. T. 372, 386
Cozzarelli, N. R. 233, 255
Crabtree, G. W. 300, 311
Cragoe, E. J., Jr. 127, 131
Craik, C. S. 140, 149
Crane-Robinson, C. 108, 109, 118
Crea, R. 265, 272
Cremins, J. 357, 369
Creveling, C. R. 54
Cripps, A. W. 99, 103
Croall, D. E. 153, 155, 163, 167, 168
Crofts, A. R. 335, 343
Crooke, S. T. 146, 151, 224, 236, 253, 255
Cuatrecasas, P. 89, 91, 224, 253
Czervionke, R. L. 198, 208

Daddona, P. E. 443, 454
Dahr, R. 121, 130
Dale, G. 333, 343
Daly, J. W. 71, 79
Danby, S. E. 109, 118
D'Andrea, R. 115, 120
Dang, P. 246, 255

Daniels, G. R. 258, 271
Danks, M. K. 224, 254
Danzin, C. 59, 63, 64, 69, 75, 77, 78
Dardin, S. 223, 227, 252
Dauchy, R. T. 95, 103
Dauwe, S. E. 345, 353
Dave, C. 59, 75
Dave, J. R. 375, 389
David, F. 336, 344
Davidson, E. H. 258, 271
Davidson, W. D. 316, 340
Davies, P. L. 260, 272
Davis, J. 216, 221
Davis, J. M. 211, 220
Davis, R. 260, 272
Davis, R. W. 108, 118
Davis, S. A. 121, 130
Davis, T. B. 358, 368, 370
Davison, A. M. 327, 342
Davsett, M. 374, 388
Dawson, R. M. C. 123, 131
Dayton, W. R. 155, 168
Dean, D. A. 163, 169
Deboer, G. 246, 255
de Boer, P. A. J. 111, 114, 119
de Broe, M. E. 345–348, 352, 353
Decker, K. 193, 198, 207, 327, 342
Degen, J. L. 49, 55, 63, 77
Degraw, J. I. 4, 12
de Groote, G. 345–347, 352–354
Deininger, P. L. 258, 271
De Jong, A. S. H. 193, 207
de Laat, S. W. 122, 127, 131
de Lamirande, G. 405, 431
Delcamp, T. J. 15–29
de Leeuw, A. M. 196, 207
DeLobelle, A. 374, 388
Deluca, H. F. 331, 343
Demarini, D. M. 250, 256
Demartino, G. N. 153, 155, 163, 167, 168
Dembo, M. 16, 28
Denamur, R. 372, 386
Denton, J. E. 408, 432
Denton, R. M. 331, 343
DePadt, G. 374, 388
Depierre, J. W. 297, 310
DePont, J. H. M. 375, 387
de Rosa, G. 99, 103
Derse, D. 439, 453
DeSombre, E. 371, 373, 374, 385
DeVita, V. T. 254
de Waele, P. 345–347, 352–354
Dewar, J. 317, 341
de Weerdt, D. 345, 348, 352, 353
Dewys, W. D. 213, 220
Diamond, L. 287, 293
DiCarlo, R. 373, 387
Dice, J. F. 137, 149
Digiovanni, L. 259, 272
Dihel, L. C. 163, 168
Dimroth, P. 154, 167
Dinardo, S. 223, 252
Dinarello, C. A. 316–318, 326, 341
Dion, R. L. 409, 432
Dirks, L. 61, 62, 75
Distel, D. 140, 149
Dixon, M. 426, 428
Djiane, J. 374, 388
Doak, P. B. 319, 341
Doane-Setzer, P. 217, 221
Dod, B. 115, 119
Dodgson, S. J. 336, 343
Doenecke, D. 107–120
Doerr, C. L. 250, 256
Doland, M. J. 316, 340
Doljanski, F. 373, 387
Doolittle, W. F. 270, 273
Doppler, W. 121–131
Downes, C. P. 123, 131
Drain, P. 181, 191
Drake, J. C. 3, 12
Drucker, W. 339
Druckmann, S. 111, 120
Drummond, G. I. 297, 310
D'Souza, C. R. 257–273
Dudrick, S. J. 314, 340
Duffy, B. S. 317, 341
Duffy, M. C. 181, 191
Duffy, T. H. 3, 12
Duhamel-Maestracci, N. 258–260, 265, 268, 270–272
Dulik, D. M. 211–221
Dunn, C. Y. 121, 130
Dunstan, C. R. 317, 341
Durie, B. G. M. 372, 386
Durlach, J. 343
Duschesne, M.-C. 65, 78
Duszynski, J. 330, 331, 342
Dutton, G. J. 179, 190
Duzgunes, N. 71, 79
Dykshorn, S. W. 371, 385

Eanes, E. D. 318–321, 323, 325, 327–329, 341
Earnshaw, W. C. 224, 252, 253
Ebashi, S. 167
Ecker, D. J. 146, 151
Eckfeldt, J. H. 317, 341
Economou-Pachnis, A. 259, 272
Edgar, D. 359, 370
Edgell, M. H. 258, 259, 266, 268, 271, 273

Edgell, N. J. 331, 343
Edwards, P, A. 141, 150
Eerdekens, M. W. 345, 347, 353
Eggleston, L. V. 326, 332, 342, 343
Ehmann, G. 142, 150
Ehrlich, Y. H. 358, 368, 370
Einhorn, L. H. 246, 255
Eisen, H. 115, 119
Ek, K. 345, 348, 353
El Kouni, M. H. 297, 302, 310
Elford, H. L. 439, 441, 453
Elion, G. B. 441, 454
Elliot, R. D. 15, 28
Elliott, W. L. 411, 432
Ellis, H. A. 317, 341
Ellis, R. D. 333, 343
Emori, Y. 142, 144, 145, 150, 153–169
Endo, M. 167
Endo, T. 282, 286
Engstrom, G. W. 331, 343
Engstrom, Y. 438, 453
Ensminger, W. B. 28, 29
Ensor, D. M. 371, 385
Erdos, E. G. 11, 13
Erickson, A. H. 163, 169
Erickson, L. C. 212, 220, 225–227, 231, 248, 250, 254
Erickson, S. 438, 452, 453
Erwin, B. G. 70, 78
Estey, E. 223, 252
Etindi, R. N. 376, 389
Evans, C. G. 217, 221
Evans, R. A. 317, 341
Evans, R. D. 93–104
Evans, T. 140, 149
Evans, W. H. 173, 189
Evans, W. K. 246, 255
Ewers, S. B. 374, 388
Ewig, R. A. G. 225, 254
Exton, J. H. 121, 130, 154, 167
Eytan, E. 136, 149

Facchini, A. 88, 91
Faderan, M. A. 411, 414, 432, 433
Fain, J. N. 121, 130
Faletto, D. 84, 91
Fanning, T. G. 258, 259, 271, 272
Farber, E. 186, 192, 375, 380, 381, 388
Farnsworth, W. E. 372, 386
Farr, A. L. 176, 190, 279, 286
Farron, F. 99, 100, 103
Fasano, O. 121, 130
Fasold, H. 174, 190
Fawcett, D. H. 259, 269, 272
Feigelson, P. 279, 286
Felaco, M. 84, 91
Feld, S. R. 246, 255
Feldman, N. T. 316, 340
Feldman, P. 316, 340
Felipo, V. 135, 148
Felsenfeld, A. 46, 54
Fenselau, C. 211–221
Feramisco, J. R. 121, 130, 145, 151
Ferber, S. 137, 149
Ferrell, L. D. 381, 390
Ferrini, U. 46, 54
Feuerstein, B. 71, 79
Fiers, W. 345–347, 352, 353
Figard, P. H. 198, 208
Fillastre, J.P. 190
Fillingame, R. H. 61, 77
Filman, D. J. 15, 20, 27, 28
Finlay, G. A. 145, 151
Finlay, G. J. 9, 13
Finley, D. 136, 141, 149, 150
Finnegan, D. J. 259, 269, 272
Finnerty, M. 279, 286
Fiori, C. E. 327, 342
Fischbein, J. W. 377, 389
Fisher, P. A. 224, 253, 331, 343
Fisher, S. 100, 104
Fishman, W. H. 345, 347, 352, 353
Flamigni, F. 142, 150
Fleetwood, J. A. 333, 343
Fleischer, A. E. 438–440, 452–454
Fleischman, L. F. 121, 129, 131
Fleming, W. H. 382, 390
Fless, G. M. 198, 208
Fletterick, R. 140, 149
Florkin, M. 102
Fogelman, A. M. 141, 150
Foley, K. A. 375, 389
Folk, J. E. 8, 12
Follette, W. C. 316, 326
Folley, S. J. 386
Folz, R. J. 138, 142, 149, 150
Fong, W.-F. 61, 63, 76, 77
Forester, R. E. I. I. 336, 343
Forget, B. G. 258, 271
Forsberg, J. G. 374, 388
Forsch, R. 4, 12
Fowler, R. C. 317, 341
Fox, C. L. 314, 339
Fox, I. H. 297, 310
Franke, U. 87, 91
Franklin, S. G. 107, 118
Fransen, J.-D. 345, 354
Franzen, M. A. 61, 77
Frappier, L. 438, 453
Fraval, H. N. A. 212, 220
Fredenburgh, J. C. 257–273
Freedland, R. A. 327, 342
Freeman, W. H. 342

Freer, S. T. 15, 20, 27, 28
Freisen, H. G. 373, 387
Freisheim, J. H. 15–29
Frelin, C. 127, 131
Freudenstein, C. 115, 119
Frey, A. B. 145, 151
Fricker, G. 174–176, 178, 179, 181–184, 186, 190, 191
Friedberg, E. C. 254
Friedkin, M. 227, 254
Friedman, O. M. 212, 213, 220
Friedman, T. 258, 271
Friend, D. S. 175, 190
Friers, W. 345, 354
Friesen, H. G. 373–375, 381, 382, 386–390
Frimmer, M. 173, 174, 186, 189, 190
Fritsch, E. F. 259, 260, 272
Fritzson, P. 297, 299–302, 307, 310, 311
Froussard, P. 115, 119
Fry, C. H. 331, 343
Fry, D. W. 223, 250, 252
Fry, R. J. M. 380, 390
Fuji, Y. 282, 286
Fujii, T. 173, 189
Fujiki, H. 193, 207
Fujimura, S. 440, 454
Fujita, K. 61, 62, 76
Fukatsu, R. 327, 342
Fukui, M. 414, 433
Fukui, N. 440, 454
Fukusen, N. 277–279, 285, 286
Fuller, D. J. 211, 220
Fuller, G. M. 193, 207
Fuller, J. L. 61, 63, 75
Fulton, R. J. 128, 131
Fung, M. J. 64, 78
Furano, A. V. 259, 272
Furth, J. 374, 387, 388

Gajdusek, D. C. 327, 342
Gallwitz, D. 107, 108, 118
Gamble, J. L. 334, 343
Ganis, B. 62, 64–69, 72, 76, 78
Ganten, D. 359, 370
Garcia-Sainz, J. A. 193, 207
Gardham, M. A. 33, 35, 39
Garneau, M. 336, 344
Garoff, H. 135, 136, 148
Garrison, J. C. 195, 207
Garruto, R. M. 327, 342
Gazdar, A. F. 74, 79
Gebeyehu, G. 410, 411, 432
Geddes, R. 26, 29
Gee, H. 345, 353
Gelato, M. 372, 386
Gensler, W. J. 229, 254
George, C. R. P. 317, 341
Gerkins, V. R. 381, 390
Gerner, E. W. 61, 62, 71, 72, 75, 79, 141, 150
Gerok, W. 173–193, 207
Gertler, A. 375, 381, 389
Gesser, G. M. 381, 390
Ghe, C. 373, 387
Gibbs, J. B. 121, 130
Gill, D. 361, 370
Gilman, A. 314, 339
Gilmour, S. K. 62, 76
Gilmour, R. S. 84, 85, 88, 89, 91
Ginelli, E. 258, 264, 269, 271
Ginsberg, H. S. 61, 75
Girard, J. R. 94, 95, 101, 103
Girard, P. R. 83, 85–87, 89–91
Gispen, W. H. 123, 131
Gitomer, W. L. 313–344
Gittes, R. F. 372, 386
Givol, D. 259, 272
Gjerset, R. 115, 119
Glass, J. R. 61, 62, 71, 72, 75, 79, 141, 150
Glaubiger, D. 231, 255
Glazer, R. I. 409, 411, 432
Glisson, B. S. 223, 224, 227, 241, 248, 250, 252, 253, 255
Glover, C. V. C. 224, 253
Go, B. 74, 79
Goeltz, P. 115, 119
Goldberg, A. L. 135, 142, 148, 150
Goldenberg, G. J. 211, 220, 240, 241, 248, 255
Golder, M. P. 375, 389
Goldfarb, M. 121, 130
Goldfarb, S. 381, 390
Goldie, J. H. 256
Goldman, I. D. 16, 28
Goldman, K. T. 198, 208
Goldsworthy, T. 381, 390
Goll, D. E. 153, 155, 158, 166, 168
Gomperts, B. D. 121, 130
Goodwin, G. 74, 79
Gopalakrishna, R. 153, 161, 167
Gordon, J. I. 138, 142, 149, 150
Gorovsky, M. A. 112, 119
Gossrau, R. 173, 189
Goto, T. 223, 252
Gottlieb, M. 316, 317, 340
Goustin, A. S. 121, 130
Gout, P. W. 373–376, 382, 383, 387–389
Graber, N. 127, 131
Graefe, U. 316, 326, 340
Graf, T. 115, 119, 130

Graham, M. 99, 103
Granner, D. K. 279, 286
Graslund, A. 438, 453
Graves, J. W. 317, 341
Grayhack, J. T. 372, 386
Green, K. C. 154, 167
Green, M. V. 100, 103
Greenbaum, A. I. 375, 388
Greene, K. 217, 221
Greene, L. A. 358, 369
Greengard, O. 99, 103
Greengard, P. 146, 151
Grens, A. 61, 62, 75, 76
Greten, H. 191
Greuter, R. 371, 386
Grieder, A. 72, 387
Griffiths, K. 375, 386, 387, 389
Grigor, M. R. 93–96, 99, 102, 103
Grimaldi, G. 258, 259, 266, 271
Grinstein, S. 127, 131
Grisolia, S. 135, 148
Griswold, D. P., Jr. 246, 255
Gritz, L. 135, 148
Grolstein, P. 382, 390
Groner, B. 121–131
Groner, W. 122, 124, 131
Groothuis, G. M. M. 174, 186, 190
Gross, M. 121, 130
Gross, M. K. 146, 151
Grossman, A. 381, 390
Grossman, L. 272
Groudine, M. 146, 151
Grove, J. 65, 78
Groyer, A. 145, 151
Gruber, M. 193, 207
Grude, D. D. 380, 390
Gruenstein, M. 186, 191
Grundler, G. G. 3, 12
Grundmann, E. 173, 186, 190
Grunicke, H. 121–131
Grynkiewicz, G. 123, 124, 131
Grzelakowska-Sztabert, B. 16, 25, 26, 28
Gual, C. 386
Guarnieri, C. 142, 150
Gudat, F. 189
Gudima, S. O. 345–354
Gulati, S. C. 216, 221
Gupta, M. 61, 62, 76
Gupta, R. 224, 249, 250, 253, 256
Guroff, G. 357, 367, 369
Guynn, R. W. 320, 324, 333, 341–343

Hagag, N. 127, 131
Hahn, T. 100, 104
Haiech, J. 153, 163, 167
Hakim, R. A. 317, 340
Halegoua, S. 357, 369
Hall, A. 121, 130
Hall, J. M. 114, 119
Halligan, B. D. 223, 224, 227, 248, 252, 253
Hallowes, R. C. 375, 388
Hama, T. 357, 367, 369
Hamburger, V. 357, 369
Hamlin, J. L. 251, 256
Hamlin, R. 15, 27
Hammond, J. M. 371, 373, 385
Hamosh, M. 94, 101, 102
Hampers, C. I. 319, 341
Hampers, C. L. 317, 340
Hanahan, D. J. 193, 207
Hanahan, P. 46, 54
Hanawalt, P. C. 254
Hander, J. S. 377, 389
Hann, F. S. 223, 250, 252
Hannonen, P. 60, 75
Hannun, Y. A. 287, 293
Hansch, C. 15, 20, 28
Hansen, H. H. 227, 254
Hansen, I. A. 101, 104
Hansford, R. G. 331, 343
Hanson, R. W. 342
Hansson, P. 101, 104
Harbers, K. 258, 260, 265, 270, 271
Harborne, N. 109, 118
Hardies, S. C. 258, 259, 271
Hardison, W. G. M. 181, 191
Hardman, N. 257, 258, 270
Harkes, L. 193, 207
Harkness, D. R. 298, 310, 346, 354, 425, 433
Harland, R. 146, 151
Harms, E. 175, 186, 190
Harper, G. P. 359, 370
Harper, M. E. 375, 389
Harpring, K. M. 17–20, 29
Harris, A. L. 374, 388
Harris, M. R. 107, 111, 114, 118
Harris, R. L. 323, 341
Harrison, P. R. 84, 91
Harrsch, P. B. 140, 149
Hartel, S. 173, 189
Harter, H. R. 317, 340
Hartman, P. G. 108, 109, 118
Hartmann, A. F. 314, 339
Hartwick, R. A. 300, 311
Harvey, R. P. 112, 119
Hase, J. 142, 150
Hastie, N. D. 259, 271
Hastings, A. B. 334, 343
Hatanaka, H. 359, 370
Hatanaka, M. 142, 150, 153, 158, 166, 168

Hathaway, D. R. 153, 154, 160, 163, 167
Hattori, M. 259, 272
Hawthorne, T. R. 71, 79
Hayaishi, O. 399, 404
Hayashi, H. 153, 167
Hayashi, M. 153, 155, 167, 168
Hayashi, S. 61–63, 76, 77
Hayashida, K. 193, 207
Haynes, R. C. 323, 341
Haynes, S. R. 259, 272
Hays, E. F. 100, 103
Heasley, V. 181, 191
Heath, J. K. 259, 271
Heby, O. 58, 62, 75, 76
Hecht, S. 236, 255
Heck, M. M. S. 224, 253
Hefti, F. 359, 370
Hegner, D. 173, 181, 189, 191
Hegstrom, R. M. 314, 340
Heidland, A. 166
Heidrich, C. 173, 189
Heiniger, H.-J. 373, 387
Heinrich, J. 8, 9, 12
Heinrich, P. C. 193, 207
Heintz, N. H. 251, 256
Hekali, P. 316, 326, 340
Heller, H. 135, 149
Heller, J. S. 61, 63, 76, 77, 79
Hemmings, B. A. 140, 145, 149
Hemmings, H. C., Jr. 146, 151
Hems, D. A. 304, 311
Hems, R. 327, 332, 342, 343
Henderson, B. E. 381, 390
Henderson, G. B. 16, 19, 21, 23, 25, 26, 28, 29
Henderson, J. F. 300, 311
Hendrix, P. G. 345, 347, 348, 352, 353
Henkin, J. 15, 28
Henrion, P. 345, 354
Henseleit, K. 314, 339
Hentschel, C. C. 115, 116, 119
Hernandez-Sotomayer, S. M. T. 193, 207
Herren, S. L. 377, 380, 381, 389
Hers, H. G. 196, 207, 282, 286, 298–301, 303–308, 310, 311
Hershko, A. 136, 149
Hertzberg, R. P. 236, 247, 255
Herzfeld, A. 99, 103
Hesketh, T. R. 122, 127, 131
Heslop, J. P. 123, 131
Heumann, R. 359, 370
Hew, C. L. 260, 272
Hewson, K. 445, 454
Hibasami, H. 43, 54
Hidaka, H. 281, 282, 286, 287, 291, 293
Hiestand, P. C. 372, 387
Hill, R. E. 259, 271
Hills, E. 317, 341
Hilton, J. 211–221
Hiltz, H. 358, 369
Hinds, P. W. 145, 151
Hinrichs, D. J. 373, 387
Hirata, Y. 193, 207
Hitchings, G. H. 441, 454
Hixon, J. H. 371, 385
Hixson, D. C. 173, 189
Hockaday, T. D. R. 316, 340
Hodas, S. 439, 453
Hodges, P. K. 224, 250, 253
Hoebel, R. 128, 131
Hoek, J. B. 335, 343
Hoffman, D. 115, 120
Hoffman, R. 405–433
Hoffman, S. J. 217, 221
Hoflacher, J. 121–131
Hohmann, P. 109, 119
Höke, H. 181, 191
Hol, W. G. J. 15, 27
Holgate, R. C. 381, 390
Hollan, S. R. 429, 433
Holland, J. F. 93, 96, 101, 102
Holm, C. 223, 252
Holm, I. 62, 76
Holmes, B. E. 373, 387
Holmgren, A. 437, 452
Holroyde, C. P. 99, 103
Holtmann, H. 100, 104
Holtta, E. 59, 60, 62, 74, 75, 77
Honda, Z. 302, 311
Hong, K. 71, 79
Hoogsteen, K. 15, 27
Hook, G. 327, 342
Hopper, S. 438, 452
Horanyi, M. 429, 433
Horecker, B. L. 160, 168, 342
Hörl, W. H. 166
Hornsperger, J.-H. 61, 76
Hortin, G. 142, 150
Horwitz, S. B. 227, 231, 255, 229, 254
Hoth, D. F. 411, 432
Hough, R. 142, 150
Houslay, M. D. 121, 130
Housley, P. R. 145, 151
Houston, J. M. 259, 271
Hoye, T. R. 213, 220
Hozier, J. 108, 118
Hsiang, Y.-H. 236, 255
Hsich, T. 89, 91
Hsieh, T.-S. 224, 233, 253, 255
Hsu, C.-J. 371, 373, 385
Huang, K.-P. 357, 367, 369
Huang, R. C. C. 84, 91

Huang, S.-C. 61, 63, 77
Hubbard, A. L. 193, 206
Hubbell, H. 258, 271
Hue, L. 282, 286
Huebner, R. J. 373, 387
Huebner, V. D. 146, 151
Huennekens, F. M. 3–13, 16, 25, 26, 28, 31, 39
Huff, C. A. 153, 163, 167
Hugentobler, G. 181, 191
Humphreys, S. 316, 340
Hunt, T. 140, 149
Hunter, T. 140, 149
Huot, S. 336, 344
Hurlbert, R. B. 439, 453
Hus, T. 258, 271
Hutchison, C. A., III 258, 259, 266, 268, 271, 273
Hwu, H. R. 258, 271
Hymer, W. C. 378, 390

Igo-Kemenes, T. 258, 271
Iizasa, T. 302, 311, 397, 403
Ikeda, H. 249, 255, 256
Ikegami, T. 408, 409, 413, 429, 432, 433
Ilse, D. 211, 220
Imahori, K. 142, 144, 145, 150, 153–155, 157, 158, 163, 167, 168
Imajoh, S. 142, 144, 145, 150, 153–169
Inaba, M. 414, 433
Inagaki, M. 281, 286, 287, 291, 293
Ingeno, M. J. 71, 79
Ingram, R. H., Jr. 316, 340
Inomata, M. 153, 155, 163, 167, 168
Inoue, M. 181, 191
Irie, M. 327, 342
Irvine, R. F. 85, 88, 91, 123, 125, 131
Ishibashi, H. 193, 207
Ishibashi, S. 100, 104
Ishidoh, K. 277, 278, 285
Ishiura, S. 153, 154, 165, 167, 169
Isomaa, V. V. 61, 77
Israels, L. G. 211, 220
Issell, B. F. 252
Itaya, K. 300, 311
Itoh, R. 297, 300–302, 307, 310, 311
Iwata, K. 142, 150
Izbicki, R. M. 245, 255

Jabben, M. 141, 150
Jackowski, S. 121, 130
Jackson, R. C. 223, 250, 252, 406–408, 414, 431–433, 449, 450, 454, 455
Jacobs, G. 44, 54
Jacobson-Kram, D. 250, 256
Jacquemin-Sablon, A. 224, 253
Jaffe, E. A. 198, 208
Jagadeeswaren, P. 258, 271
Jaggi, R. 121–131
Jahn, C. L. 258, 259, 266, 268, 271
Jänne, J. 59–61, 74, 75, 77
Jänne, O. A. 61, 62, 76, 77
Janssen, J. W. G. 121, 130
Jaworski, J. 266, 272
Jayaram, H. N. 405–433
Jeanrenaud, B. 196, 207
Jeffcoate, S. L. 374, 388
Jefferson, L. S. 62, 76
Jeffrey, A. M. 83, 88, 90
Jelinek, W. R. 258, 259, 271, 272
Jeng, A. Y. 287, 288, 293
Jiang, H. 121, 130
Jildevik, I. 438, 453
Joder-Ohlenbusch, A.-M. 57, 59, 64, 69, 75, 78
Johanson, R. A. 15, 28
Johno, S. 282, 286
Johns, D. G. 409–411, 432
Johns, E. W. 113, 119
Johnson, J. R. 317, 341
Johnson, P. M. 345, 353
Johnson, R. E. 372, 386
Johnson, R. K. 236, 255
Jolivet, J. 3, 12
Jolly, D. J. 258, 271
Jones, E. W. 140, 149
Jones, R. G. 97, 103
Jones, R. J. 216, 221
Jordan, A. 111, 112, 119
Joseph, S. K. 330, 342
Jowsey, J. 317, 341
Judge, L. 15, 28
Jung, M. 66, 78
Jung-Testas, I. 145, 151

Kabara, J. J. 90
Kabra, P. M. 66, 78
Kaduce, T. L. 198, 208
Kaever, V. 202, 208
Kahana, C. 61, 62, 72, 75, 76
Kahn, P. 130
Kaibuchi, K. 288, 293
Kainz, M. S. 146, 151
Kaizer, H. 211, 220
Kajander, O. 397, 403
Kakiuchi, S. 167
Kaklij, G. 136, 149
Kallio, A. 61, 77
Kalowski, S. 317, 341
Kamata, T. 121, 130
Kamatani, N. 302, 311

Kameji, T. 43–55, 61–63, 72, 75–77
Kaminir, L. B. 358, 362, 369
Kanamoto, R. 61, 77
Kandala, J. C. 110, 111, 119
Kane-Haas, C. 259, 271
Kannagi, R. 155, 158, 168
Kao-Shan, C.-S. 237, 238, 241, 248, 250, 255
Kaplan, P. L. 128, 131
Karkas, J. D. 443, 454
Karnovsky, M. L. 297, 310
Karp, J. E. 211, 220
Kato, Y. 277–286, 287, 293
Katoh, N. 378, 390
Katunuma, N. 277–286
Katz, A. 62, 75
Katz, A. I. 317, 340
Katz, J. 94, 103
Katzir, N. 259, 272
Kauffman, G. 386
Kaufman, B. T. 15, 20, 28
Kaufman, J. F. 45, 54
Kaufman, S. 259, 272
Kawakami, M. 100, 103, 104
Kawamoto, S. 281, 286, 287, 291, 293
Kawaoi, A. 346, 354
Kawasaki, H. 142, 144, 145, 150, 153–169
Kawashima, S. 153, 155, 158, 163, 167, 168
Kay, J. 153, 158, 166
Kay, J. E. 61, 75
Kazmers, I. S. 443, 454
Kearns, J. W. 372, 386
Kedes, L. H. 112, 115, 119, 120
Kekomäki, M. P. 304, 311
Kekwick, A. 100, 103
Kelleher, J. K. 227, 229, 254
Keller, G. A. 193, 207
Keller-Juslén, C. 227, 230, 254
Keller-McGandy, C. E. 142, 150
Kellett, E. 259, 269, 272
Kelley, J. A. 410, 411, 432
Kelley, K. W. 373, 387
Kelley, W. N. 443, 454
Kelly, E. 64–66, 68, 69, 78
Kelly, P. A. 373, 387
Kempton, R. J. 15, 17–20, 28, 29
Kenamond, T. G. 317, 341
Kennedy, A. R. 142, 150
Kennedy, M. 374, 388
Keppel, F. 115, 119
Keresztes-Nagy, S. 26, 29
Kerr, D. N. S. 317, 341
Kerrigan, D. 224, 253
Khoury, E. 115, 119
Kibler, R. 372, 373–386, 387, 389
Kido, H. 277–286
Kikkawa, U. 287, 288, 293
Kikuchi, T. 159, 168
Kim, H. 377, 389
Kim, J. N. 140, 149
Kimelman, D. 140, 149
Kimura, H. 193, 207
Kimura, K. 327, 342
Kimura, M. 257, 271
Kimura, S. 193, 207
King, M. T. 318–321, 323–325, 327–329, 334, 341–343
King, S. A. 411, 432
Kinne, R. 181, 191
Kisaragi, M. 155, 163, 164, 168
Kisliuk, R. L. 12, 15, 27
Kistler, W. S. 110, 111, 119
Kit, S. 257, 271
Kitada, S. 100, 103
Kitagawa, T. 381, 390
Kitahara, A. 155, 168
Kiyohara, T. 414, 433
Klaassen, C. D. 182, 186, 191
Klapproth, R. 358, 369
Kledzik, G. S. 371–373, 374, 385, 386
Klein, G. L. 317, 341
Klein, R. S. 443, 454
Klingenberg, M. 300, 311
Klug, A. 108, 111, 118
Kmiec, E. B. 142, 150
Knazek, R. A. 375, 389
Knight, J. 386
Knight, R. D. 428, 433
Knobil, E. 385
Knodgen, B. 57, 75
Knook, D. L. 196, 207
Knowles, J. D. 176, 190
Knudsen, P. J. 45, 54
Kobashi, K. 142, 150
Koch, K. M. 316–318, 326, 341
Kochan, J. 163, 169
Kohn, K. W. 212, 220, 224–227, 231, 241, 248, 250, 253–255
Koizumi, K. 173, 189
Kojima, K. 173, 189
Kolff, W. J. 314, 449
Kolin, A. 176, 190
Koller, T. 108, 111, 118
Köllinger, M. 173–192
Kondratyev, A. D. 357–370
Kontula, K. K. 61, 62, 76
Koons, J. E. 93, 94, 96, 102
Koppel, D. E. 71, 79
Korman, A. J. 45, 54
Kornberg, A. 327, 342
Kornecki, E. 358, 368, 370
Kote, Z. 429, 433

Köttgen, E. 189
Kovacs, K. 381, 390
Krailo, M. D. 381, 390
Kralovic, R. C. 93, 94, 96, 100–102
Kramer, D. L. 62, 63, 67, 69, 71, 76, 78
Kramer, R. A. 217, 221
Kramer, W. 174–177, 181–184, 190, 191
Kraus, J. P. 45, 54
Kraut, J. 15, 27
Kraut, J. 15, 20, 28
Krebs, H. A. 314, 322, 326, 327, 332, 339, 341–343
Krell, H. 181, 191
Kremmer, T. 429, 433
Kress, H. 107–120
Kreuzer, K. N. 233, 255
Krieg, P. A. 112, 115, 116, 119, 120
Kroker, R. 173, 181, 189, 191
Krönke, K. D. 174, 175, 183, 186, 190
Kropko, M. L. 250, 256
Kubota, M. 397, 403
Kuefner, U. 3–13
Kuehn, G. D. 61, 77
Kuhara, S. 259, 272
Kuhn, L. J. 287, 293
Kuhn, M. 227, 230, 254
Kuhn, N. J. 97, 99, 103
Kuiper, J. 193–208
Kumar, A. A. 15, 16, 28
Kung, H. F. 121, 130
Kunimoto, T. 317, 326, 340
Kuo, F. J. 83, 85–87, 89–91
Kuo, J. F. 287, 293, 378, 390
Kurz, G. 173–192
Kutny, R. 44, 48, 54
Kuttan, R. 410, 432
Kyriadkidis, D. A. 61, 63, 71, 77, 79

Lacal, J.-C. 127, 131, 287, 293
Lacorbiere, M. 357, 359, 369
Laemmli, U. K. 154, 168, 175, 190, 195, 207, 359, 370
Lagarde, R. A. 122, 127, 131
Lahr, W. L. 371, 385
Laing, C.-S. 316, 340
Laird, N. M. 317, 340
Laishes, B. A. 186, 192
Landin-Olsson, M. 374, 388
Landkamer, G. J. 215, 220
Landmann, L. 181, 191
Landsman, D. 111, 120
Lane, M. D. 100, 103
Lang, A. 89, 91
Langan, T. A. 109, 118
Lansey, S. G. 93, 94, 102
Lanza-Jacoby, S. 93, 94, 102
Lapis, E. 405–433
Larsen, V. 227, 254
Larson, D. F. 371–373, 385, 386
Larson, N. A. 373–375, 382, 387
Lasater, L. 440, 441, 454
Lasler, W. R., Jr. 213, 220, 246, 255
Lasnitzki, I. 372, 386
Latham, M. D. 224, 250, 253
Latta, T. 314, 315, 339
Lattimer, J. R. K. 314, 339
Laurent, G. 212, 220
Lawley, P. D. 212, 220
Lawrence, J. J. 115, 119
Lawrence, J. R. 26, 29, 317, 341
Lawson, J. W. R. 324, 342
Lazarides, E. 135, 148
Lazarus, H. 15, 28
Lazarus, J. M. 316, 317, 340
Lazdunski, M. 127, 131
Le Cam, A. 196, 207
LeFebore, J. 374, 388
Leach, K. L. 288, 293
Leapman, R. 328, 342
Leder, P. 45, 54, 108, 118, 403
Lee, H. K. 66, 78
Lee, M.-H. 288, 293
Lee, T. 224, 253
Leger, M. J. 173, 189
Lehninger, A. L. 331, 336, 343
Lein, E. J. 439, 446, 453
Lele, S. B. 246, 255
Lemann, J. 317, 341
Lempert, K. D. 317, 341
Lennon, E. J. 317, 341
Lennox, R. W. 107, 110, 111, 117, 119
Lenox, R. H. 358, 368, 370
Leof, E. B. 121, 130
Lepley, R. A. 155, 168
Lerman, M. I. 258, 259, 271, 272
Lesnikowski, C. 115, 120
Letcher, A. J. 85, 88, 91
Levi-Montalcini, R. 357, 369
Levine, A. J. 140, 145, 149, 151
Levine, H., III 89, 91, 224, 253
Levine, M. I. 11, 13
Levo, Y. 100, 104
Levy, D. 174, 181, 186, 190, 191
Levya, A. 425, 433
Lewins, A. M. 327, 342
Lewis, D. J. 375, 388
Lewis, M. G. 34, 39
Leyland-Jones, B. 411, 432
Li, A. C. 141, 150
Li, C. H. 372, 386
Li, S.-Y. 443, 454
Lian, C. Y. 298, 310
Lieberman, H. B. 146, 151

Lien, E. J. 439–442, 446, 453, 454
Liepnieks, J. J. 411, 432
Lightholder, J. R. 99, 100, 103
Lim, M. 250, 256
Lim, M.-I. 443, 454
Lin, P.-F. 146, 151
Lindenbaum, M. H. 33, 39
Lindner, E. 71, 79
Lindros, K. 316, 326, 340
Lindsay, V. J. 61, 75
Ling, V. 251, 256
Lippincott, J. B. 313, 339
Liskamp, R. M. J. 83, 88, 90
Liss, A. R. 391
Lister, C. K. 259, 269, 272
Little, J. W. 142, 150
Litzow, J. R. 317, 341
Liu, L. F. 223, 224, 227, 236, 248, 250, 252, 253, 255, 256
Lloyd, H. H. 211, 220
Loch, N. 173, 189
Lodish, H. 137, 149
Loeb, D. D. 259, 268, 271, 273
Logan, K. A. 111, 120
Lohr, G. W. 406, 431
Lohrmann, J. 5, 12
Lohrmann, U. 3–13
Lohse, M. A. 259, 272
Loike, J. D. 227, 229, 231, 254, 255
Loizzi, R. F. 375, 388
Long, B. H. 223–256
Longnecker, D. S. 381, 390
Lonnemann, G. 316–318, 326, 341
Loomis, C. R. 121, 129, 131, 287, 293
Loomis, W. F. 257, 271
Losa, F. 108, 111, 118
Lowenstein, J. M. 316, 340
Lowrie, E. G. 316, 340
Lowry, D. R. 121, 130
Lowry, O. H. 176, 190, 279, 286
Lubich, W. P. 66, 78
Lucas, D. L. 428, 433
Ludlow, J. W. 142, 150
Ludvigsen, C. W. 317, 341
Luesley, D. M. 345, 353
Lui, M. S. 407, 408, 411, 414, 432, 433, 449, 454
Luk, G. D. 43, 48, 53, 58, 74, 75, 79
Lundell, M. 224, 251, 253
Lundquist, F. 316, 340, 341
Lupulescu, A. 371, 374, 385
Luthman, M. 437, 452
Lyons, W. R. 371, 372, 385, 386

Mabel, J. A. 246, 255
MacDonald, I. 311
MacKenzie, R. E. 31–39
Macara, I. G. 84, 91
Maccoss, M. 443, 454
Mach, M. 49, 55
Mackerlova, L. 378, 390
Madara, T. 62, 76
Madhubala, R. 43–55
Mäenpää, P. H. 304, 311
Magun, B. E. 372, 373, 386
Mahbubani, H. M. 163, 168
Maher, J. F. 339
Mais, R. F. 26, 29
Majerus, P. W. 403
Majumder, G. C. 375, 380, 381, 388
Maki, M. 158, 168
Malarkey, W. B. 374, 388
Maltzman, W. 140, 149
Maly, K. 121–131
Mamont, P. S. 57, 59, 61, 63–65, 69, 75, 77, 78
Manery, J. F. 332, 343
Mangum, J. H. 16, 28
Maniatis, T. 259, 260, 272
Mannervik, B. 217, 221
Manni, A. 371, 373, 385
Manning, J. A. 314, 339
Mansell, M. M. 439, 444, 453
Manuelidis, L. 259, 272
Manzoli, F. A. 83–91
Maraldi, N. M. 83–91
Marcus, F. 140, 149
Mariller, M. 145, 151
Markovits, J. 224, 253
Marks, M. E. 225, 254
Marquez, V. E. 410, 411, 432
Marshall, B. 223, 227, 252
Marshall, C. J. 121, 130
Marshall, S. 371–374, 385, 386
Marsolais, C. 336, 344
Martelli, A. M. 84, 91
Martens, E. J. 345, 348, 352, 353
Martin, D. W., Jr. 438, 452
Martin, G. S. 287, 293
Martin, S. L. 268, 273
Martindale, J. E. 196, 207
Martinez, P. 113, 114, 119
Martinson, H. 224, 251, 253
Marton, L. J. 66, 67, 69, 71, 74, 75, 78, 79
Martyn, P. 101, 104
Marzluff, W. F. 84, 91
Massry, S. G. 317, 341
Masters, S. B. 121, 130
Mastro, A. M. 382, 390
Masuno, H. 100, 103
Matrisian, L. 372, 373, 386
Matschinsky, B. 330, 331, 342

Matsui, I. 43, 54
Mattern, M. R. 224, 236, 247, 253, 255
Matteucci, A. 84, 91
Matthaei, K. I. 99, 103
Matthews, D. A. 15, 20, 21, 27–29
Matthews, H. R. 146, 151
Matusik, R. J. 382, 390
Matusik, R. T. 375, 389
Maxson, R. 115, 120
May, W. S. 211, 220
Mayer, E. 317, 341
Mayer, G. L. 375, 389
Mayes, E. L. V. 107, 111, 114, 118
Mays, E. T. 93, 102
Mazzei, G. J. 83, 85–97, 89–91
Mazzotti, G. 83–91
McCann, P. P. 43, 48–50, 53, 61, 74, 76–79
McClure, J. N. 317, 341
McConlogue, L. 61, 62, 76
McCormak, J. G. 331, 343
McCormick, J. I. 16, 17, 23, 28
McCormick, M. B. 163, 168
McCullough, J. L. 7, 8, 12
McCurdy, A. 224, 253
McCurdy, D. W. 140, 149
McDicken, I. W. 345, 353
McEntire, K. D. 173, 189
McGarrick, G. E. 374, 388
McGary, T. C. 193, 207
McGovern, K. A. 65, 78
McKay, I. 121, 130
McKnight, S. L. 146, 151
McLaughlin, R. J. 345, 353
McManis, J. S. 70, 71, 78, 79
McNeill, C. A. 26, 29
Mead, J. F. 100, 103
Means, A. R. 282, 286
Mee, L. K. 373, 387
Meggio, F. 142, 150
Mehlman, M. A. 342
Meier, H. 373, 387
Meier, P. J. 174, 175, 178, 181, 183, 186, 190, 191
Meier-Abt, A. St. 181, 191
Meijer, D. K. F. 174, 186, 190
Meistrich, M. L. 112, 113, 119
Meites, J. 371–374, 385, 386
Mejia, N. 31–39
Mekler, P. 372, 387
Mellgren, R. L. 155, 168
Melloni, E. 153, 160, 161, 167, 168
Meltzer, H. Y. 381, 390
Mendelson, E. 111, 120
Mereu, R. 361, 370
Merrill, A. H., Jr. 287, 293
Merrill, G. F. 146, 151
Merrill, J. P. 314, 317, 319, 339–341
Messer, R. H. 345, 353
Messing, J. 265, 272
Metcalf, B. W. 64,78
Metcalf, J. C. 122, 127, 131
Metzger, H. 71, 79
Michaels, S. 226, 227, 231, 248, 250, 254
Michal, G. 300, 311
Michalovitz, D. 145, 151
Michetti, M. 153, 160, 161, 167, 168
Mider, G. B. 93, 96, 101, 102
Mihich, E. 59, 75
Milbrandt, J. D. 251, 256
Millan, J. L. 345, 353
Miller, E. E. 93, 94, 102
Miller, J. 65, 78
Miller, J. S. 140, 149
Mills, G. C. 305, 311
Milo, G. 374, 388
Milutinovich, J. 316, 326
Minami, Y. 153–169
Minna, J. D. 74, 79
Minocha, A. 223–226, 233, 252
Mion, C. M. 314, 340
Mirabelli, C. K. 146, 151, 236, 255
Mirahmadi, K. S. 317, 341
Mirsky, A. E. 257, 270
Miscia, S. 84, 91
Misra, R. 259, 272
Mitchell, B. S. 443, 454
Mitchell, H. K. 142, 150
Mitchell, J. L. A. 61, 77
Mitchell, T. C. 109, 118
Mitsui, A. 297, 300, 310, 311
Mitsui, K. 142, 150
Miyake, R. 287, 293
Miyamoto, T. 302, 311
Mizel, S. B. 100, 104
Mohun, T. 115, 120
Moldave, K. 272
Moley, J. F. 100, 103
Molgaard, H. V. 116, 120
Möller, W. 174, 190
Mollering, H. 316, 340
Mong, S.-M. 236, 255
Mongkolsuk, S. 259, 272
Monia, B. P. 146, 151
Montague-Wilkie, B. 16, 23, 25, 28
Montejano, Y. 3–13
Montgomery, D. W. 371, 373–376, 380, 382, 383, 385, 387, 389
Montgomery, J. A. 4, 11, 12, 15, 28, 439, 443, 445, 453, 454
Moolenaar, W. H. 122, 127, 131
Moore, E. C. 438, 439, 441, 446, 452, 453

Moore, G. E. 213, 220
Moore, J. P. 122, 127, 131
Moore, M. A. S. 216, 221
Moore, M. M. 250, 256
Moorman, A. F. M. 111, 114, 119
Mori, H. 158, 168
Mori, N. 100, 104
Morimoto, M. 287, 293
Morita, T. 440, 454
Moriyami, Y. 440, 454
Morris, D. R. 49, 55, 61, 63, 75, 77
Morris, H. P. 406, 407, 414, 431–433, 449, 454
Morris, J. D. H. 122, 127, 131
Morrison, S. D. 100, 103
Morton, J. J. 93, 96, 101, 102
Moses, H. L. 121, 130
Mosmann, T. 9, 12
Moss, A. H. 317, 341
Movsesyan, V. A. 357, 358, 362, 369
Muccioli, G. 373, 387
Mudge, G. H. 414, 339
Muellener, D. 122, 124, 131
Mueller, G. C. 107, 118, 382, 390
Muggia, F. M. 227, 252, 254
Mukai, M. 155, 168
Mulcahy, L. S. 121, 130
Müller, M. 173–192
Munday, M. R. 97, 103
Munro, J. B., III 438, 452
Munro, S. 144, 151
Mura, C. V. 111, 120
Murachi, T. 142, 150, 153, 155, 158, 159, 166, 168
Murakami, T. 142, 150, 153, 158, 166
Murakami, Y. 61–63, 76, 77
Murase, T. 100, 104
Murayama, J. 440, 454
Murayama, K. 408, 409, 413, 432
Murayama, T. 361, 370
Murofushi, H. 153, 154, 167
Murphy, E. 330, 342
Murphy, E. C. 84, 91
Murphy, J. P. 314, 339
Murphy, L. J. 373, 387
Murray, H. W. 99, 103
Mushynski, W. E. 33, 39
Musial, S. T. 224–227, 229, 231, 232, 234, 238–242, 248, 250, 253, 254
Myles, A. 212, 213, 220

Nagano, M. 193, 207
Nagasaki, K. 193, 207
Naftalin, L. 377, 390
Nagata, T. 282, 286
Nagelkerke, J. F. 193, 194, 206
Nagy, E. 373, 387
Nairn, A. C. 146, 151
Naito, A. 249, 255
Nakai, N. 142, 150
Nakamura, M. 153, 155, 167, 168
Nakane, P. K. 346, 354
Nandi, S. 372, 386
Narayanan, V. L. 409, 432
Nassal, M. 174, 176, 183, 190
Nathan, C. F. 99, 103
Nathans, D. 61, 62, 72, 76
Nathanson, L. 345, 347, 352, 353
Natsumeda, Y. 405–433
Nau, M. M. 74, 79
Naujoks, K. W. 359, 370
Neary, B. A. 111, 120
Neff, N. H. 16, 28
Nehls, P. 108, 118
Neims, A. J. 71, 79
Nelson, E. M. 223, 227, 248, 252
Neri, L. M. 84, 91
Neubauer, M. 49, 55
Neuman, T. 357, 369
Neumeier, R. 173, 189
Newcastle, N. B. 381, 390
Newhouse, L. A. 226, 243, 245, 247, 254
Newsholme, E. A. 101, 104
Nicholls, D. G. 335, 343
Nichols, C. R. 406, 408, 413, 418–420, 428, 432, 433
Nichols, M. 226, 227, 231, 248, 250, 254
Nicklen, S. 265, 272
Nicoll, C. S. 371, 375, 385, 389
Niedel, J. E. 121, 129, 131, 287, 293, 383, 391
Nielsen, R. 323, 341
Nienhuis, A. W. 403
Nishida, Y. 302, 311
Nishino, T. 302, 311
Nishioka, K. 112, 113, 119
Nishizuka, Y. 83, 90, 127, 131, 167, 287, 288, 293, 375, 382, 383, 389, 390
Nissen, N. I. 227, 254
Noble, R. L. 374, 376, 388
Nolte, A. 173–192
Nomoto, H. 287, 293
Nomoto, M. 153, 167
Nordmann, R. 372, 387
Norman, A. W. 317, 341
Northemann, W. 193, 207
Northoff, G. 193, 207
Norton, J. A. 100, 103
Nouwen, E. J. 345, 347, 348, 352, 353
Novakofski, J. 373, 387
Novogrotzsky, M. 373, 387
Nutter, L. M. 437, 439, 452
Nuutinen, H. 316, 326, 340

Oberhuber, H. 121–131
O'Brien, T. G. 62, 76, 374, 388
Öbrink, B. 173, 189
Ochiai, K. 375, 389
O'Dwyer, P. J. 411, 432
Oester, Y. T. 26, 29
O'Farrell, P. H. 154, 168
Offord, K. P. 333, 343
Ogawa, H. 100, 104
Ogino, S. 414, 433
Ognibene, A. 85, 88, 91
Ohno, S. 153–169
Ohta, R. 257, 271
Ohtsuka, Y. 155, 168
Oka, J. 302, 311
Okayama, H. 45, 48, 54
Okubo, H. 100, 103, 193, 207
Okuda, J. 173, 189
Olah, E. 408, 411, 429, 432, 433
Oleinik, O. E. 63, 77
Oli, H. 327, 342
Olivares, C. 111, 112, 119
Olivecrona, T. 100, 104
Oller do Nascimento, C. M. 94, 95, 97, 101, 102
Olson, M. S. 193, 207, 331, 343
Olsson, H. 374, 388
Onohara, M. 317, 326, 340
Ontko, J. A. 331, 342
O'Reilly, R. J. 216, 221
Oren, M. 140, 145, 149, 151
Orlowski, M. 142, 150
Ornberg, R. 328, 342
Oro, J. 342
Osaki, A. 142, 150
Osheroff, N. 224, 253
Oshima, R. G. 110, 111, 119
Oshino, N. 331, 342
Osieka, R. 224, 253
Oskarsson, M. 333, 343
Osoba, D. 246, 255
Otten, Y. 359, 370
Otto, D. A. 331, 342
Otto, J. M. 193, 207
Ouwendijk, J. 198, 207
Owen, C. A., Jr. 181, 190
Owen, J. P. 317, 341
Ozanne, B. 128, 131
Ozasa, H. 302, 311

Pacholczyk, T. 371, 373, 385
Padgett, R. W. 259, 271
Paganini-Hill, A. 381, 390
Paglia, D. E. 297, 310
Pajunen, A. 43–55, 63, 77
Pajunen, A. E. I. 61, 77
Palmieri, S. 115, 119
Pampush, M. 155, 168
Pan, C. J. 112, 119
Panagiotidis, C. 61, 63, 77
Panyim, S. 111, 113, 114, 119
Papa, S. 84, 90, 91, 343
Papageorge, A. G. 121, 130
Papahadjopoulos, D. 71, 79
Papkoff, H. 371, 385
Pardee, A. B. 146, 151
Parfitt, A. M. 317, 333, 341
Parganas, E. 224, 253
Park, C.-S. 173, 189
Parker, P. J. 87, 91
Parker, S. 186, 192
Parks, R. E., Jr. 297, 302, 310, 443, 454
Parnes, J. R. 46, 54
Parries, G. 128, 131
Parsons, F. M. 313, 339
Pasteels, J. L. 388
Pasti, G. 287, 293
Pastore, E. J. 15, 27
Patrick, J. 357, 369
Pattabiraman, N. 71, 79
Paul, J. 84, 91
Paulik, E. 429, 433
Paull, K. D. 409, 432
Paulos, B. 373, 387
Paumgartner, G. 191
Pawan, G. L. S. 100, 103
Pears, C. J. 163, 168
Pearson, O. H. 371, 373, 385
Pech, M. 258, 271
Pedersen, H. 227, 254
Pegg, A. E. 43–55, 57, 59–67, 69–72, 75–78
Pegg, D. G. 250, 256
Pehrson, J. R. 114, 119
Pekala, P. H. 100, 103, 104
Pelham, H. R. B. 144, 151
Pennington, K. 408, 413, 418–420, 428, 432
Pera, P. J. 71, 78
Peraino, C. 380, 390
Pereira, M. S. 377, 380, 381, 389
Perez-Grau, L. 111, 112, 119
Permmongkol, C. 372, 387
Persson, L. 61, 62, 71, 76, 77
Perucho, M. 116, 120
Petersen, N. S. 142, 150
Peterson, D. 31, 39
Petro, B. J. 217, 219, 221
Pett, D. M. 61, 75
Petter, A. 181, 191
Pettigrew, N. M. 382, 390
Petzinger, E. 173, 186, 189, 190
Peyrat, J. P. 374, 388

Pfaff, E. 181, 191, 300, 311
Pfannkuche, H. J. 202, 208
Phillips, M. A. 146, 151
Phillips, T. M. 34, 39
Picard, J. 173, 189
Pickering, M. V. 409, 432
Pierides, A. M. 333, 343
Pierpont, G. L. 317, 341
Pierrepoint, C. 386
Pietras, D. F. 259, 271
Pillote, K. 443, 454
Pillwein, K. 406, 413, 414, 431, 432, 433
Pina, B. 113, 114, 119
Pinedo, H. M. 425, 433
Pinhasi-Kimhi, O 145, 151
Pinna, G. A. 142, 150
Piper, J. R. 4, 11, 12, 15, 28
Pipsa, J. 60, 75
Pitot, H. C. 99, 103, 380, 381, 390
Pitss, F. N. 317, 341
Pivazian, A. 357, 369
Plante, L. T. 15, 27
Plowman, J. 409, 432
Plucienniczak, A. 266, 272
Plummer, T. H. 8, 12
Poe, M. 15, 27, 121, 130
Poenie, N. 123, 124, 131
Pohjanpelto, P. 62, 65, 77, 78
Pollard, M. R. 179, 190
Pollet, D. E. 345, 347, 348, 352, 353
Polli, E. 258, 264, 269, 271
Pommier, Y. 224, 237, 238, 241, 248, 250, 253, 255
Pontremoli, S. 153, 160, 161, 167, 168
Pontzer, M.-A. 317, 340
Pope, L. E. 3, 12
Popper, H. 189, 191, 390
Porter, C. W. 57–79
Porter, D. 140, 149
Portnoy, D. A. 163, 169
Posner, B. I. 373, 387
Pösö, H. 44–46, 48, 54, 59, 61, 69, 75, 77
Potter, B. J. 184, 191
Potter, V. R. 331, 342
Poulos, B. 372, 373, 386
Pouysségur, J. M. 122, 127, 131
Prajda, N. 408, 432
Pratt, G. 142, 150
Pratt, L. H. 140, 149
Pratt, W. B. 145, 151
Preiss, J. 121, 129, 131
Price, E. M. 15–29
Price, S. R. 100, 104
Pritchard, M. L. 62, 76
Proietto, J. 196, 207
Prpiĉ, V. 121, 130, 154, 167
Putnam, C. W. 371–391
Putney, J. W. 391

Qasba, P. 61, 77
Quagliariello, E. 343

Raaka, B. M. 279, 286
Rabinowitz, J. C. 36, 37, 39
Race, H. M. 359, 361, 365, 370
Racker, E. 128, 131
Raivio, K. O. 304, 311
Ralph, R. K. 223, 227, 252
Ramachandra, C. 89, 91
Ramanathan, L. 46, 54
Ramsey, A. J. 97, 103
Randall, R. J. 176, 190, 279, 286
Ranstam, J. 374, 388
Rao, D. N. 259, 272
Rao, S. N. 298, 310
Ratnam, M. 15–29
Ratner, S. 328, 342
Ravetch, J. V. 163, 169
Ravkas, E. 357, 369
Razin, S. V. 88, 91
Read, E. 61, 62, 76
Reardon, M. A. 414, 433
Rechavi, G. 259, 272
Rechsteiner, M. 135–151
Recsei, P. A. 48, 54
Reddy, E. P. 121, 130
Redwood, W. R. 211, 220
Reich, E. 11, 13
Reichard, G. A. 99, 103
Reichard, P. 437, 439, 452
Reinhart, E. 8, 9, 12
Reisfeld, R. A. 3, 12
Reiss, Y. 136, 149
Ren, W.-Y. 443, 454
Renaud, J. 109, 115, 118
Rennert, O. M. 57, 75
Renoir, J. M. 145, 151
Renz, M. 108, 118
Resch, K. 202, 208
Rettenmier, C. W. 121, 130
Reuben, A. 175, 178, 190
Reutter, W. 173, 175, 186, 189, 190
Rey, H. G. 195, 207
Reynold, R. K. 121, 130
Reynolds, M. 386
Rhee, L. 87, 91
Rhin, J. S. 121, 130
Rich, T. L. 330, 331, 342
Richards, J. F. 372, 386
Richards, R. H. 316, 340

Riches, P. E. 109, 118
Richman, R. 112, 119
Riddle, O. 371, 385
Ridge, L. L. 173, 189
Rifkin, D. B. 13
Righetti, P. G. 345, 348, 353
Rillema, J. A. 375, 376, 388, 389
Rinehart, C. A., Jr 61, 63, 77
Ringer, S. 314, 339
Rios-Orlandi, E. 32, 33, 39
Ris, H. 257, 270
Rittenhouse, J. 140, 149
Ritz, J. 211, 220
Rixon, R. H. 438, 453
Robberson, D. 258, 271
Robbins, E. 107, 118
Roberts, A. B. 128, 131, 280, 286
Roberts, A. F. C. 97, 103
Roberts, B. E. 140, 149
Roberts, B. J. 223, 250, 252
Roberts, D. 224, 253
Roberts, E. C. 15, 28
Roberts, J. D. 439, 446, 453
Roberts, J. J. 212, 217
Roberts, J. W. 258, 271
Robins, A. J. 115, 116, 120
Robins, R. K. 409, 410, 427, 428, 432, 433
Robinson, A. M. 94, 95, 101, 103
Robinson, C. J. 317, 341
Robinson, D. S. 93, 102
Robyn, C. 388
Roche, N. S. 128, 131
Rock, C. O. 121, 130
Roebuck, B.D. 381, 390
Rogers, J. 122, 127, 130
Rogers, J. C. 163, 169
Rogers, J. H. 258, 271
Rogers, S. 137, 144, 146, 149, 150
Rohrer, H. 359, 370
Rosbash, M. 135, 148
Rose, I.A. 136, 149
Rosebrough, N. J. 176, 190, 279, 286
Rosen, J. M. 375, 389
Rosenberg, L. E. 45, 54
Rosenberg, M. 121, 130
Rosenthal, E. T. 140, 149
Rosenthal, S. M. 332, 343
Roskoski, R., Jr. 288, 293
Rosowsky, A. 4, 5, 12, 15, 28, 220
Ross, G. 176, 190
Ross, M. D. 224, 250, 253
Ross, R. K. 381, 390
Ross, W. E. 223, 224, 227, 231, 241, 248, 250, 252, 253, 255
Rossi, C. S. 331, 343
Rote, K. V. 137, 149
Roth, J. S. 260, 272, 440, 454
Rothchild, I. 375, 389
Rothstein, A. 127, 131
Rowe, T. C. 223, 224, 227, 248, 252, 255
Rowley, S. D. 211, 216, 220, 221
Rubin, C. M. 258, 271
Rubin, E. H. 438, 453
Rubin, H. 358, 369
Rubin, R. B. 121, 130
Ruddle, F. 146, 151
Ruetz, S. 181, 191
Rufeger, U. 173, 189
Ruiz-Carrillo, A. 109, 115, 116, 118, 120
Rupley, J. A. 142, 150
Russell, D. H. 371–391
Russell, G. D. 61, 77
Russo, J. E. 211–221
Rutenburg, A. M. 377, 389
Rutter, W. J. 140, 149
Ryan, T. J. 8, 12
Ryden, J. B. 443, 454
Ryoji, M. 224, 253

Saarma, M. 357, 369
Sacco, O. 153, 160, 161, 167, 168
Sahyoun, N. 89, 91, 224, 253
Sainsbury, J. R. 333, 343
Sakaki, Y. 259, 271, 414, 433
Salamino, F. 153, 160, 161, 167, 168
Salandt, D. Y. 332, 343
Salaspuro, M. 316, 326, 340
Salmons, B. 122, 124, 131
Salomonsson, L. 378, 390
Sambrook, J. 259, 260, 272
Sams, L. 17–20, 29
Samuels, H. H. 279, 286
Sanchez, E. R. 145, 151
Sanchez-Criado, J. E. 375, 389
Sandberg, A. A. 213, 220
Sander, M. 89, 91, 224, 253
Sanders, K. D. 193, 207
Sanger, F. 265, 272
Sano, K. 288, 293
Santos, E. 121, 130
Santos, G. W. 211, 216, 220, 221
Sapag-Hagar, M. 375, 388
Sapienza, C. 270, 273
Saral, R. 211, 216, 220, 221
Sartorelli, A. C. 428, 433, 439, 441, 453
Sasaki, T. 155, 159, 168
Sasaki, Y. 281, 282, 286, 287, 291, 293
Sato, A. 439–443, 445, 446, 453, 454
Sato, J. K. 3, 12
Sauer, L. A. 95, 103
Saunders, P. P. 410, 432

Savel, H. 227, 254
Savory, J. 317, 326, 340
Sawyer, S. T. 277, 286
Sawyer, W. H. 385
Scalabrino, G. 61, 77
Scanu, A. M. 198, 208
Scgtve, P. M. 381, 390
Schabel, F. M., Jr. 211, 220, 246, 255
Schaeffer, H. L. 443, 454
Schaffner, F. 191
Scharff, M. 107, 118
Schatz, G. 135, 136, 148
Scheffler, I. E. 61, 62, 75, 76
Schein, P. S. 247, 255
Schenone, A. 59, 75
Schimke, R. T. 135, 149, 251, 256
Schindler, M. 71, 79
Schirch, V. 31, 38
Schirlin, D. 64, 78
Schirmer, E. W. 8, 12
Schmid, C. W. 258, 271
Schmidt, C. G. 224, 253
Schmidt, G. H. 375, 388
Schmitt-Verhulst, 382, 390
Schneider, S. 173–192
Schneller, S. W. 443, 446
Schochetman, G. 439, 453
Schornagel, J. 425, 433
Schramm, U. 181, 184, 191
Schreiner, G. E. 319, 341
Schreyer, A. 181, 184, 191
Schuber, F. 71, 79
Schubert, D. M. 357, 359, 369
Schuster, B. 31, 38
Schwartz, A. B. 317, 340
Schwartz, R. E. 224, 241, 253, 255
Schweisfurth, H. 8, 9, 12
Schweizer-Groyer, C. 145, 151
Schwender, C. F. 443, 454
Scolnick, E. M. 121, 130
Scott, G. K. 260, 272
Scott, W. W. 372, 386
Scow, R. O. 94, 101, 102
Scribner, B. H. 314, 316, 326, 340
Scrimgeour, K. G. 31, 39
Seamon, K. B. 71, 79
Seargent, L. A. 345, 353
Sedory, M. J. 61, 77
Seeber, S. 224, 253
Seeburg, P. H. 265, 272
Seegmiller, J. E. 298, 310
Seely, J. E. 61–63, 71, 76, 77
Segal, S. 259, 272
Segundo, B. S. 163, 168
Seidman, G. 46, 54
Seiler, N. 57, 75
Selawry, O. S. 227, 254
Seligman, A. M. 377, 389
Selinger, Z. 358, 369
Sendroy, J. 334, 343
Sensenbrenner, L. L. 211, 216, 220, 221
Seppanen, P. 59, 74, 75
Sertich, G. J. 46, 54, 62, 75
Seto, S. 397, 399, 403, 404
Severin, E. S. 357–370
Sexton, M. 377, 390
Seyfried, C. E. 63, 77
Shaeffer, J. 135, 148
Shah, G. N. 371, 373, 385
Shah, H. 327, 342
Shaldon, S. 316–318, 326, 341
Shanklin, J. 141, 150
Shannon, K. W. 36, 37, 39
Sharkey, N. A. 212, 220, 287, 288, 293
Sharkis, S. J. 216, 220
Shaw, E. 13
Shealy, Y. F. 15, 28
Sheetz, M. P. 71, 79
Shehee, W. R. 259, 271
Shellhamer, D. 181, 191
Shen, L. L. 248, 255
Shepard, F. A. 246, 255
Sherman, C. D., Jr. 93, 96, 101, 102
Sherman, F. 137, 149
Sherr, C. J. 121, 130
Sherrard, D. J. 317, 326, 340
Shewach, D. S. 443, 454
Shibata, S. 100, 104
Shih, T. 121, 130
Shimizu, K. 121, 130
Shinaberger, J. H. 317, 341
Shindo, Y. 327, 342
Shipley, G. D. 121, 130
Shirahata, A. 43–55, 63, 77
Shiu, R. P. 374, 376, 388
Shoji, M. 83, 89, 90, 378, 390
Shooter, E. M. 357, 369
Shore, P. A. 65, 78
Shukla, S. D. 193, 207
Shuttleworth, K. 59, 69, 75
Shyamalet, G. 89, 91
Siat, M. 57, 59, 64, 69, 75, 78
Sidwell, R. W. 409, 432
Siekevitz, P. 331, 342
Siena, S. 216, 221
Sigal, I. S. 121, 130
Signorella, A. 378, 390
Sigournay, C. M. 107, 111, 114, 118
Silberman, L. 223, 252
Simard, R. 258, 271
Simkiss, K. 327, 342
Simmonds, R. J. 425, 433
Simmons, R. L. 193, 207
Simon, J. 373, 387

Simon, L. 113, 114, 119
Simoni, F. 259, 272
Simpson, R. T. 108, 118
Singer, M. F. 258, 259, 266, 271, 272
Singer, S. 441, 454
Singh, B. 249, 250, 256
Singh, J. 95, 99, 103
Sinha, Y. N. 375, 388
Sipes, I. G. 380, 390
Sirica, A. E. 293, 380, 381, 390
Sirotnak, F. M. 4, 11, 12, 15, 16, 28, 29
Sistare, F. D. 323, 341
Sittman, D. B. 112, 119
Sivak, A. 390
Sivilotti, M. 257–273
Sjoerdsma, A. 74, 78, 79
Skipper, H. E. 211, 220
Skog, S. 438, 453
Skowronski, J. 259, 266, 271, 272
Skutches, C. L. 99, 103
Sladek, M. 327, 342
Sladek, N. E. 215, 220
Slaga, T. J. 390
Slater, E. C. 343
Slezynger, T. C. 61, 62, 75
Slilaty, S. N. 142, 150
Slobody, L. B. 314, 339
Smallwood, S. E. 241, 255
Smallwood-Kentro, S. 224, 250, 253
Smith, B. J. 107, 111, 113, 114, 118, 119
Smith, D. D. S. 31, 35, 38
Smith, G. 268, 272
Smith, I. E. 374, 388
Smith, J. 74, 79
Smith, M. C. 382, 390
Smith, M. R. 121, 130
Smith, M. T. 217, 221
Smith, P. L. 15–29
Smith, R. F. 316, 340
Smith, T. A. 122, 127, 131
Smithline, F. 381, 390
Snell, E. E. 48, 54
Snyder, S. H. 373, 387
Soboll, S. 316, 340
Soeldner, J. S. 319, 341
Soffer, R. L. 137, 149
Sokoloski, J. A. 428, 433
Solt, D. B. 375, 380, 381, 388
Somlyo, A. P. 331, 332, 343
Somlyo, A. V. 331, 332, 343
Southern, E. M. 258, 265, 270, 271
Sparatore, B. 153, 160, 161, 167, 168
Spector, A. A. 198, 208
Spector, T. 443, 454
Spencer, E. P. 137, 149
Spencer, J. H. 257–273
Spies, J. R. 7, 12
Sporn, M. B. 128, 131, 280, 286
Srivastava, P. C. 409, 432
Srivastava, S. K. 121, 130
St John, A. C. 135, 148
Stacey, D. W. 121, 130
Staffeldt, E. 380, 390
Stafford, D. W. 260, 272
Stähelin, H. 227, 230, 254
Stahl, H. 108, 118
Stalmans, W. 196, 207
Stamatoyan-nopoulos, G. 403
Stammers, D. K. 15, 20, 28
Stanley, B. 43–55
Stark, G. R. 251, 256
Steele, W. H. 26, 29
Steenvoorden, A. C. M. 121, 130
Steer, C. J. 193, 206
Steglich, C. 62, 76
Stein, J. M. 443, 454
Stein, R. 121, 129, 131
Steiner, D. F. 163, 168
Steitz, J. A. 137, 149
Stern, D. F. 128, 131
Stern, J. R. 332, 343
Sternglanz, R. 223, 252
Sternlicht, H. 229, 254
Stewart, J. W. 137, 149
Stewart, W. K. 313, 339
Stiehl, A. 191
Stigbrand, T. 345, 353
Stinson, R. A. 345, 353
Stoeckler, J. D. 443, 454
Stofko, R. E. 61, 77
Stollar, B. D. 111, 120
Stolowich, N. J. 64–69, 78
Storey, B. T. 336, 343
Stotz, E. H. 102
Strauss, A. W. 142, 150
Streeter, D. G. 409, 432
Stremmel, W. 184, 191
Stricker, P. 371, 386
Stringfellow, D. A. 223–256
Strominger, J. K. 45, 54
Strub, K. 115, 116, 120
Stuart, J. F. B. 26, 29
Stuart, R. K. 211, 220
Stubbs-Spry, M. 322, 341
Stukenbrok, H. 193, 206
Stullcup, W. 357, 359, 369
Su, N. 83, 89, 90
Suard, Y. 121, 130
Suau, P. 113, 114, 119
Subirana, J. A. 111, 112, 119
Suelter, C. H. 298, 310
Sufrin, J. R. 62, 63, 65, 71, 76, 78
Sugar, J. 429, 433

Sugisaka, H. 317, 326, 340
Sugita, H. 154, 155, 157, 167, 168
Sullivan, D. M. 224, 250, 253
Summers, L. B. 306, 311
Sun, E. 279, 286
Suresh, M. R. 16, 28
Sussman, H. H. 345, 348, 353
Susten, S. S. 16, 17, 23, 28
Suzukaka, D. 217, 219, 221
Suzuki, K. 142, 144, 145, 150, 153–169
Swack, J. A. 224, 253
Swan, R. C. 314, 339
Swanson, T. A. 213, 220
Sweet, R. W. 121, 130
Swift, H. 257, 270
Swindler, C. M. 314, 339
Szelenyi, J. 429, 433
Szentivanyi, A. 12
Sztul, E. S. 175, 178, 190
Szymanski, P. 61, 62, 76

Tabe, L. 115, 120
Tabin, C. J. 121, 130
Tabor, C. W. 43, 44, 46, 48, 53–55, 286
Tabor, H. 43, 44, 46, 48, 53–55, 286, 332, 343
Taetle, R. 401, 404
Tager, J. M. 343
Tahir, K. 217, 221
Tai, A. W. 439, 446, 453
Takadera, T. 142, 150
Takahashi, I. 287, 293
Takai, Y. 287, 288, 293
Takaku, F. 100, 104
Takano, E. 155, 158, 168
Takeda, E. 408, 432
Takenaka, O. 259, 272
Takeuchi, F. 302, 311
Takvorian, T. 211, 220
Tamaoki, T. 287, 293
Tamiya-Koizumi, K. 173, 189
Tan, E. T. H. 93, 94, 96, 102
Tan, K. B. 247, 255
Tan, L. U. L. 31, 38
Tanabe, S. 331, 343
Tanaka, K. 142, 150, 153, 158, 166
Tanaka, R. D. 141, 150
Tanaka, T. 282, 286, 374, 376, 388
Tanaka, Y. 287, 293
Tanford, C. 333, 343
T'ang, A. 439, 441, 446, 453
Tang, K. C. 59, 75
Taparowsky, E. 121, 130
Tardif, C. 61, 76, 77
Tashgian, A. H., Jr. 123, 131
Tauber, R. 173, 189
Taylor, M. V. 122, 127, 131
Taylor, R. 99, 103
Teehan, B. P. 317, 340
Temple, C. 15, 28
Tertoolen, L. G. J. 122, 127, 131
Tew, K. D. 212, 217, 220, 221
Tewey, K. M. 223, 227, 248, 252, 255
Thayer, R. E. 258, 259, 271, 272
Theiss, H. W. 74, 79
Theiss, J. C. 250, 256
Thelander, L. 437–439, 452, 453
Theologides, A. 100, 103
Thoeharides, T. C. 61, 77
Thoenen, H. 359, 370
Thoma, F. 108, 111, 118
Thomas, J. O. 109, 110, 118
Thomas, P. S. 46, 54, 108, 118
Thompson, M. P. 93–96, 99, 102, 103
Thomsen, K. 227, 254
Thorne, C. J. R. 426, 428
Thurn, J. R. 317, 341
Tilchen, E. J. 224, 253
Tilton, D. 317, 340
Tindal, J. S. 372, 386
Tipton, K. F. 426, 428
Tishler, A. S. 358, 369
Tobita, M. 163, 168
Toksoz, D. 121, 130
Tolman, R. L. 443, 454
Tomita, F. 287, 293
Tomita, K. 327, 342
Tomkins, G. M. 279, 286
Tönjes, R. 107–120
Toots, U. 357, 369
Topper, Y. J. 372, 386
Torkkeli, T. K. 61, 62, 76
Townsend, L. B. 443, 454
Tracey, D. 377, 390
Trader, M. W. 213, 220, 246, 255
Tran, T. 181, 191
Tran-Thi, T. 193, 207
Tranthi, T. 193, 207
Traynor, A. 357, 369
Tremoli, E. 198, 208
Tribukait, B. 438, 453
Tricot, G. J. 405–433
Tromans, P. M. 345, 353
Trostle-Weige, P. K. 112, 113, 119
Trujillo, J. 371, 373, 385
Truneh, A. 382, 390
Tseng, W.-C. 439, 453
Tsichlis, P. N. 259, 272
Tsien, R. Y. 123, 124, 131
Tsukagoshi, S. 414, 433
Tsunasawa, S. 137, 149
Tsushima, K. 297, 300, 302, 310, 311
Tudor, G. 345, 348, 353

Tullner, W. W. 372, 386
Tung, L. 135, 148
Turkington, R. W. 372, 375, 380, 381, 386, 388
Turner, J. E. 359, 370
Turner, R. S. 83, 89, 90, 287, 293
Tygstrup, N. 341
Tzeng, D. Y. 408, 432

Ueberberg, H. 193, 207
Ueda, K. 399, 404
Uemura, T. 223, 252
Uhing, R. J. 121, 130
Ui, M. 300, 311, 361, 370
Ullrich, A. 87, 91
Ulrich, K. 213, 220
Unger, T. 259, 272
Ungerleider, R. S. 226, 227, 231, 248, 250, 254
Unkeless, J. C. 163, 169
Urbain, J. 345, 354
Uren, J. 4, 12, 15, 28
Usami, C. 302, 311
Usdin, E. 54
Utsunomiya, K. 61, 77

Vaitkevicius, V. K. 245, 255
Valentine, W. N. 297, 310
Van Berkel, Th. J. C. 193–208
Van Bloom, J. H. 121, 130
Van Cott, A. C. 411, 432
Vandenbark, G. R. 287, 293
Van den Berghe, G. 297–311
Van den Broek, A. M. W. C. 198, 207
Van der Eb, A. J. 121, 130
Van de Velde, R. L. 94, 103
van der Voorde, A. 345–347, 352, 353, 354
Van der Werve, G. 196, 207
Vandewalle, B. 374, 388
Van Dongen, C. J. 123, 131
Vanneste, R. 298, 310
Van Pottelsberghe, C. 299–301, 307, 310
van Slyke, D. D. 334, 343
Vanstone, C. L. 211, 220
Van't Riet, B. 439, 441, 453
Varki, N. M. 3, 12
Varshavsky, A. 136, 141, 149, 150
Veech, R. L. 313–344
Veereman, G. H. 121, 130
Veil, L. B. 173, 189
Velan, B. 46, 54
Veloso, D. 333, 343
Vengerov, Y. Y. 345–354
Vennin, P. 374, 388
Vercesi, A. 331, 343
Verlaan de Vries, M. 121, 130
Vertino, P. 71, 79
Viceps-Madore, D. 71, 79
Vierstra, R. D. 141, 150
Vigne, P. 127, 131
Villar, E. 31, 38
Villeponteau, B. 224, 251, 253
Vincent, J. E. 198, 208
Vincent, M. F. 297–311
Vinson, J. R. T. 71, 79
Vinson, T. 67, 69, 78
Viola, N. V. 127, 131
Vistica, D. T. 217, 219, 221
Vitale, M. 84, 91
Vitols, K. S. 3–13, 16, 28
Vizzo, J. E. 316, 326, 340
Voelkel, K. 223, 252
Vogelsang, G. B. 211, 220
Voliva, C. F. 258, 259, 266, 268, 271, 273
Vollmer, E. P. 386
Volz, K. W. 15, 20, 28
Von Dippe, P. 174, 181, 186, 190, 191
von Heijne, G. 138, 149
von Wartburg, A. 227, 230, 254
Voronov, A. V. 345–354
Votrin, I. I. 345–354
Vrana, A. 311
Vreman, H. J. 316, 340

Wagner, J. 59, 69, 75
Wagner, J. A. 357, 359, 361, 365, 369, 370
Wahl, G. M. 251, 256
Wakefield, L. M. 280, 286
Wakelam, M. J. O. 121, 130
Walborg, E. F., Jr. 173, 189
Walker, A. 375, 381, 389
Walker, E. B. 373, 387
Walker, G. S. 327, 342
Walker, L. E. 3, 12
Wallace, M. A. 121, 130
Wallace, P. G. 327, 342
Wallach, D. 100, 104
Wals, P. A. 94, 103
Walser, M. 333, 343
Walsh, D. A. 89, 91
Walsh, P. C. 372, 386
Walter, W. C. 314, 339
Wang, A. L. 212, 217, 220
Wang, C. C. 146, 151
Wang, H. 240, 241, 248, 255
Wang, J. C. 223, 252
Ward, D. C. 259, 272
Ward, M. K. 317, 341

Warren, B. S. 287, 293
Wasserburg, H. L. 377, 389
Wasserman, K. 316, 340
Wasson, D. B. 302, 311, 395–404
Waterfield, M. D. 87, 91
Waters, S. B. 376, 389
Watkins, J. B., III 182, 186, 191
Watson, G. 61, 62, 76
Watts, J. E. M. 298, 310
Watts, R. W. E. 298, 310
Wayne, J. S. 259, 268, 272
Wazniak, A. J. 227, 231, 255
Webb, E. C. 426, 428
Webb, J. L. 442, 448, 449, 454
Weber, G. 405–433, 437, 449, 452, 454
Weber, W. 193, 207
Webster, H. K. 428, 433
Webster, L. T. 326, 342
Wechter, R. 44, 45, 50, 63, 77
Weckbecker, A. 439, 442, 446, 453, 454
Weckbecker, G. 439, 440, 442, 446, 453, 454
Weddell, J. 333, 343
Weibel, E. R. 173, 189, 200, 208
Weinberg, R. A. 121, 128, 130, 131
Weiner, M. W. 316, 340
Weinhouse, S. 327, 342
Weintraub, H. 108, 118
Weissman, S. M. 258, 271
Weitzman, R. E. 316, 340
Weksler, B. B. 198, 208
Welch, W. J. 145, 151
Weller, J. M. 314, 339
Wells, D. E. 107, 117
Wells, J. R. E. 111, 112, 115, 116, 119, 120
Wells, R. 137, 146, 149
Welsch, C. W. 374, 388
Wennogle, L. P. 287–293
Werner, W. 195, 207
West, M. A. 193, 207
Westerman, M. P. 11, 13
Westervelt, F. B. 319, 341
Westly, H. J. 373, 387
Whang-Peng, J. 237, 238, 241, 248, 250, 255
Wheeler, G. P. 213, 220
Whelan, J. M. 300, 311
Whipp, B. J. 316, 340
Whitaker, J. F. 377, 390
White, F. N. 176, 190
White, M. W. 49, 55
White, P. M. 26, 29
Whitehead, V. M. 29
Whitfield, J. F. 438, 453
Whitford, T. W., Jr. 439, 453
Whiting, J. A. 112, 119
Whitlock, C. 357, 359, 369
Whittier, F. C. 317, 341
Whittler, R. F. 163, 169
Wick, M. 4, 12, 15, 28
Wieland, T. 174–176, 183, 186, 190
Wielinger, H. 195, 207
Wiesinger, D. 373, 387
Wiggins, L. 224, 253
Wigler, M. 121, 130
Wilde, C. J. 97, 99, 103
Wildnass, J. D. 84, 91
Wiley, J. E. 225, 254
Wilk, S. 142, 150
Wilkinson, R. 317, 341
Willard, H. F. 259, 268, 272
Williams, A. J. 331, 343
Williams, J. F. 99, 103
Williams, J. G. 163, 168
Williams, J. R. 250, 256
Williams, M. 15, 27
Williams, S. D. 246, 255
Williams, V. J. 99, 103
Williams-Ashman, H. G. 43, 48, 53, 59–61, 75
Williamson, D. H. 93–104
Williamson, J. R. 330, 331, 335, 342, 343
Willis, E. K. 397, 403
Wills, M. R. 317, 326, 340
Willson, J. K. V. 225, 254
Wilmore, D. W. 314, 340
Wilson, C. M. 109, 110, 118
Wilson, G. 193, 206
Wilson, J. H. P. 198, 208
Wilson, L. 227, 254
Wilson, W. R. 9, 13
Windler, E. 191
Winfield, J. M. 314, 339
Wing, L.-Y. C. 375, 389
Wingard, J. R. 211, 220
Winterhalter, K. 181, 191
Wise, B. C. 378, 390
Wisse, E. 207
Witkowski, J. T. 409, 432
Witt, J. J. 288, 293
Witt, M. H. 213, 220
Wohler, I. M. 11, 13
Wolf, D. H. 142, 150
Wolf, M. 89, 91, 224, 253
Wolff, E. C. 8, 12
Wolin, S. L. 137, 149
Woloski, M. 193, 207
Wolstenholme, G.E. W. 386
Wong, S. Y. P. 317, 341
Wood, S. C. 93–104
Woodgett, J. R. 140, 149
Woods, C. M. 135, 148

Woods, H. F. 326, 342
Woodworth-Gutai, M. 259, 271
Worcel, A. 142, 150, 224, 253
Work, T. S. 190
Wortzman, G. 381, 390
Wotring, L. L. 443, 454
Wrenn, R. W. 378, 390
Wright, C. 371, 373, 385
Wright, D. G. 428, 433
Wu, L. 61, 62, 76
Wu, M. 112, 119
Wu, R. 272
Wyndam, R. 317, 341
Wysowskyj, H. E. 287–293

Xie, Q.-W. 48, 55
Xuong, N.-H. 15, 27

Yabuta, A. 327, 342
Yager, J. D. 381, 390
Yalowich, J. 223, 224, 227, 248, 252, 253, 254
Yamada, Y. 405–433
Yamaguchi, K. 193, 207
Yamaji, Y. 405–433
Yamamoto, M. 297, 310
Yamanaka, H. 395–404
Yamasaki, N. 100, 103
Yanagida, M. 223, 252
Yanagihara, R. 327, 342
Yang, L. 223, 227, 248, 252, 255
Yang, X.-M. 31–39
Yang–Fey, L. 87, 91
Yankner, B. A. 357, 369
Yasuda, H. 89, 91, 111, 120
Yau, P. 89, 91
Yeager, A. M. 211, 216, 220, 221
Yeh, D.-B. 146, 151
Yen, T. S. B. 381, 390
Yeoman, L. A. 226, 243, 245, 247, 254
Yoffe, J. R. 362, 370
Yokoyama, A. 372, 386
Yoshida, C. 327, 342
Yoshida, N. 414, 433
Yoshimura, N. 159, 168
Youdale, T. 438, 453
Young, C. W. 439, 453
Youngblom, J. 140, 149
Yoyoyama, S. 121, 130
Yu, A. 401, 404
Yu, C.-S. 5, 12, 15, 28
Yuasa, Y. 121, 130
Yumoto, Y. 159, 168
Yun, S. L. 298, 310

Zachau, H. G. 258, 271
Zager, P. 316, 340
Zarolinski, J. F. 26. 29
Zentgraf, H. 115, 119
Zepp, E. A. 93, 94, 96, 100–102
Zeveley, E. M. 16, 19, 25, 26, 28, 29
Zhao, S.-Y. 146, 151
Zhelkovsky, A. 357, 369
Ziegler, K. 174, 190
Zijlstra, F. J. 198, 207
Zu, T. 146, 151
Zuehlsdorf, M. 216, 221
Zukoski, C. F. 371, 373–376, 382, 383, 385, 387, 389
Zweidler, A. 107, 112, 118, 119
Zwelling, L. A. 223–227, 231, 237, 238, 241, 248, 250, 252–255, 411, 432
Zwiers, H. 123, 131
Zwierzchowski, L. 375, 388

SUBJECT INDEX

Acetate *see also* Sodium acetate
  blood levels in pathogenic states 316
  non-equivalence to bicarbonate 336
Acetoacetate levels in rat liver, acetate on 321
Acetyl CoA, levels in rat liver, acetate on 320
Acetyl CoA carboxylase (EC 6.4.1.2)
  cachectin on 100
Acetyl CoA synthase (EC 6.2.1.1) sodium acetate metabolism and 315, 326
N-{4-[3-(4-Acetyl-3-hydroxy-2-propylphenoxy)propoxy]phenyl }-1H-tetrazol-5-carboxamide (LY170198)
  inhibition of PKC 291, 292
    dose dependency 292
  structure 290
Actinomycin D cytotoxicity to podophyllin-analog-resistant cells 244
Adenine nucleotides
  degradation pathway 298
  levels in dialysis patients 326
  levels in rat liver
    acetate on 325, 339
    fructose on 326
Adenosine
  futile cycle in hepatocytes 304
  levels in stressed erythrocytes 305, 306
Adenosine deaminase (ADA, EC 3.5.4.4)
  coformycin on 304
  deficiency
    dATP accumulation and 396
    on immune system 395, 400
  in nucleotide degradation pathway 298
  inhibition
    by deoxycoformycin 396, 443
    by EHNA 443
Adenosine deoxynucleotide metabolism in human lymphocytes 395–403
Adenosine kinase (EC 2.7.1.20) in futile cycle 299, 304
S-Adenosyl-1,8-diamino-3-thiooctane (AdoDato)
  inhibition of SPD synthase 59
  on *S*-adenosylmethionine decarboxylase 51
S-Adenosylmethionine (AdoMet)
  on ODC activity 62
  polyamine biosynthesis and 57, 58
S-Adenosylmethionine decarboxylase (*S*-adenosine-L-methionine carboxy-lyase, AdoMetDC, EC 4.1.1.50)
  activation 44, 46
  amino acid sequencing 49
  antibodies 45
  biological properties 58
  classes of 44
  cloning of cDNA for 45, 46, 48, 49, 53
  degradation 136
  DFMO on 47, 48, 50, 51, 59, 69
  factors affecting decrease 59, 60
  factors affecting increase 59, 63
  from *E. coli* 48
  from rat prostate 45–49
  growth factors on 49
  half-life 50, 58, 63
  MGBG on 47, 48, 50, 51, 59, 60
  polyamine analogs on 65, 69, 70, 72
  polyamine biosynthesis and 57
  polyamines on 44, 51, 52
  precursor 46–48, 51, 53
  preparation 45
  product regulation 58, 59, 63
  putrescine on subunit formation 46, 47, 51
  pyruvate prosthetic group 48
  regulation 43–53
    by exogenous polyamines 60, 61
    mechanisms of 63, 72
  mRNA
    analysis 46, 49
    levels and cell growth 49–51
  structure 46
  synthase inhibitors on 51, 52
  synthesis 45, 46
  translation 51–53, 63
Adenylate cyclase (EC 4.6.1.1)
  GTPase and ADP-ribosyltransferase relations 366
  NGF on 357, 359, 361, 362, 365, 369
  serotonin on 365, 369
Adenylate kinase (EC 2.7.4.3)
  in nucleotide degradation pathway 298
  nucleotide equilibrium and 297
Adipose tissue
  alterations during lactation and tumor growth 94, 95
  interleukin I on 100

lipolysis in 94
ADP on cytosolic purine 5′-nucleotidase 301–303
ADP reductase *see also* Ribonucleotide reductase
IMPY on 440
MAIQ on 440
poly(ADP-ribose) synthesis in lymphocytes
dAdo on 397, 398
on mitogenic response 399, 400
programmed cell death and 400
poly(ADP-ribose) synthetase (ADPRP, EC 2.4.2.30)
inhibition on lymphocyte response 399, 400
inhibition on NAD^+ levels 398
reaction catalyzed 399
suicide activation 400, 403
ADP-ribosylation, NGF on 357, 361, 362, 366, 368, 369
ADP-ribosyltransferase, GTPase and adenylate cyclase relations 366
Adriamycin cytotoxicity to podophyllin-analog resistant cells 244
Albumin association with L1210 cells 26
Aldehyde dehydrogenase (ALDH, EC 1.2.1.3)
cyclophosphamide resistance and 212, 216, 217
in L1210/Cy cells 214
antibody 214, 216
in resistant cells 215, 216
inhibition by DEAB 215, 216
isoforms 214–217
stem cell levels and 216, 219
Alkaline elution techniques, DNA single-strand break analysis 225, 226
podophyllin analogs 227, 229
Alkalinization
induction in cell preparations 300
on erythrocyte adenosine, AMP and ATP 305, 306
on erythrocyte purine 5′-nucleotidase 308
Alkylating agents
resistance
cellular 211
enzymatic mechanisms of 211–219
glutathione levels and 217
therapeutic dose limitation 211
Allantoin production in rat liver 298, 303, 304
Allopurinol
combination therapy with tiazofurin 427, 430
in refractory AML treatment 424, 427
inhibition of xanthine oxidase 425, 428
on plasma hypoxanthine concentration 426, 431
Aluminium toxicity 317, 326, 327
α-Amantin binding to sinusoidal membrane polypeptides 183
Amatoxins transport systems 173
Amino acid monotonous tracts and PEST regions 145
3-Aminobenzamide inhibition of poly(ADP-ribose) synthetase 398, 399
α-Amino terminus, proteolysis and 136
N^{α}-(4-Amino-deoxy-10-methylpteroyl)-N^{ϵ}-(4′-azido-I salicyl)-L-lysine (APA-IASA-Lys)
covalent incorporation into L1210 DHFR 20
photoaffinity modification of DHFR 17, 25, 27
structure 19
synthesis of ^{125}I labeled 18
transport into L1210 cells 21, 22, 27
interaction with MTX 22
8-Aminoguanosine inhibition
of purine nucleoside phosphorylase 443
synergistic, of cell growth 443, 446, 447
AMP
catabolism, control of 297, 298
AMP deaminase and 299
dephosphorylation
anomalies between '*in vivo*' and cell-free results 309
in erythrocytes
alkalization on 305, 306
glucose deprivation on 306
in hepatocytes
anoxia on 304, 305
fructose on 304, 305
on cytosolic purine 5′-nucleotidase 301–303
cAMP
dependent induction of neurites 360, 368
NGF on 357
theophylline on 360, 361
AMP deaminase (EC 3.5.4.6)
in nucleotide degradation pathway 297–299
inhibition 298
cAMP-dependent protein kinase (EC 2.7.1.37)
degradation of subunits 136, 140
exposure of PEST regions 141
NGF on 357, 359
cAMP phosphodiesterase (EC 3.1.4.17)
L-carnosine on 367
NGF on 357, 361, 368
theophylline induction 360, 361

Amphipathic
cations
binding to sinusoidal membrane polypeptides 182
uptake by hepatocytes 174, 183, 184
compounds
bile salt uptake and 182
transport 173–189
Anoxia
induction in cell preparations 300
on hepatic ATP 304
on rat liver cytosolic 5′-nucleotidase 307
Antamanide uptake by sinusoidal membrane polypeptides 183
Antibodies
S-adenosylmethionine decarboxylase 45
methylenetetrahydrofolate dehydrogenase 36, 37
protein kinase C 86
Apomorphine
inhibition of protein kinase C 291, 292
ATP binding and 293
dose dependency 292
isoquinoline sulfonamide similarity 291
structure 290
Arachidonate metabolites formation in rat liver cells 198–200
Arginase (EC 3.5.3.1) induction 99
Arginine
distribution in histones 109, 111
in H5 113, 114
Argininosuccinate synthetase (EC 6.3.4.5) in PPi production in hepatocytes 328
Aspartate aminotransferase (EC 2.6.1.1) Walker 256 carcinoma on 99
Aspirin
on glycogenolytic response in perfused liver 202
on production of glucose output factor 200, 201, 206
ATP
as positive effector in ribonucleotide reductase reaction 437
cellular preservation, consequences of 309
in erythrocytes
alkalinization on 305
glucose deprivation on 306
in hepatocytes
anoxia induced loss 304, 305
fructose induced loss 304, 305
5-iodotubericidin induced loss 304
in lymphocytes, dAdo on 397, 398
on cytosolic purine 5′-nucleotidase 301–303
dATP
accumulation in ADA deficiency 396
inhibition of ribonucleotide reductase 397
on cytosolic purine 5′-nucleotidase 303
Ca^{2+}/Mg^{2+}ATPase (EC 3.6.1.3) Ca^{2+} pumping 128
Avian
development, histone changes and 112
erythroblastosis virus (AEV) system, H5 histone and 115
Aziridine-glutathione reaction 217
[*O*-(3,3-Azo-*n*-butyl)-tyr^6]-antamanide
photoaffinity labeling of isolated hepatocytes 183, 184
structure 183
(7,7-Azo-3α,12α-dihydroxy-5β-cholan-24-oyl)-2-aminoethanesulfonic acid
^{3}H labeled syntheses 174
labeling of hepatomas 187
labeling of plasma membrane subfractions 179, 187
structure 178
N-(4,4-Azo-n-pentyl)-21-deoxyajmalin
^{3}H labeled syntheses 174
structure 184
treatment of hepatoma cells 186, 188
uptake into hepatocytes 183, 185

BCNU on L1210 cells 213
Biliary secretion 177–181
Bile salts
binding polypeptides
absence in hepatomas 186
function 181
identification 181
of the hepatocyte membrane 177–181
specificity 181, 182
conjugated 177, 181
photolabile derivative 177
transport
amphipathic cations on 183
canalicular system 178–181, 188
fluorescence microscopy studies 182
in hepatoma cells 185–187
loss on dedifferentiation 186
polypeptides involved 181
unconjugated 177, 181
uptake
ajmalin derivative on 183
by hepatocytes 174, 182
N^1,N^4-Bis(ethyl)putrescine (BEP) on polyamine biosynthesis, comparison with BES and BESm 70
N^1,N^8-Bis(ethyl)spermidine (BES)
cellular polyamine depletion by 68

on polyamine biosynthesis, comparison with
BEP and BESm 70
DFMO 69
possible mode of action 69, 70, 72
regulation of ODC 67, 69, 71
structure 67
N^1,N^{12}-Bis(ethyl)spermine (BESm)
chemotherapy
human carcinomas *in vitro* 74
L1210 *in vivo* 72, 73
on ODC and AdoMetDC 72
on polyamine biosynthesis, comparison with BEP and BES 70
possible mode of action 72
structure 67
Bovine NGF *see* Nerve growth factor
Bromocriptine on tumor promotion by PRL 374
Burkitt's lymphoma, nitrogen mustard and VP16 resistance 246
Buthionine sulfoximine depletion of glutathione 217

Ca^{2+}
cytosolic, determinations 123, 124
cytosolic free, Ha-ras induction on 127
gradients across mitochondrial membrane 330–333, 339
maximum free concentration pH on 334, 335
maximum free concentrations polyanions on 333
PEST regions and 142
sensitivities of CANP 153, 158, 159
in vivo and *in vitro* compared 165
stores, release by IP_3 125, 127–129
Cachectin (tumor necrosis factor) enzyme inhibition by 100
Calcium
accumulation in liver mitochondria 328
mechanism 329, 332
levels in rat liver, acetate on 325, 329
uptake, energy considerations 331
Calcium-activated neutral protease (CANP, calpain, EC 3.4.22.17)
activation at cell membrane 161
mechanism 164, 165
assay 154
autocatalytic activation 158
structural changes 158, 159
time course 162, 163
autolysis 154
Ca^{2+} sensitivities 153, 158, 159, 161, 162, 165
domain structure 162
comparison with cysteine proteases 163, 164
evidence for proenzyme nature 161, 163, 164
gene sequences 142
hybridization of native and autolysed 159
interaction with liposomes 154
interaction with phospholipid 160, 161
isozymes 153, 165
regulation of activity 153–166
Calcium-activated neutral protease inhibitor (Calpastatin)
erythrocyte type 155, 156, 166
liver type 155, 156, 166
mode of action 165
peptide maps 156
preparation 154
properties 157
reactive site 158
repeating unit of 157, 158
structure 142, 155
schematic 156
Calmodulin inhibitor R24571 on PRL-stimulated mitogenesis 382
Calmodulin kinase in PRL-stimulated mitogenesis 382
Calmodulin-like domain of CANP 162
Calpain *see* Calcium activated neutral protease
Calpastatin *see also* Calcium activated neutral protease inhibitor
cDNA 144
inhibition of calpain 142
relation to ubiquitin 143
Cancer diagnostics hPLAP in 345–353
Cancer, lactation and 93–102
Carbohydrate intolerance, glucose levels on 319, 338
Carboxypeptidase A (CP-A, EC 3.4.17.1)
activation of cytotoxicity 9, 10
hydrolysis of MTX-ala 6–8
on MTX-peptides 6
Carboxypeptidase B (CP-B, EC 3.4.17.2)
on MTX peptides 6, 11
Carboxypeptidase G (CP-G)
cleavage of MTX 7
Carboxypeptidase N (CP-N)
inhibition by DL-2-mercaptomethyl-3-guanidoethylthiopropionic acid 9
on MTX-arg 6, 8, 9
Carcinomas
human
adeno LS-180 34
breast MCF-7 34
colon HCT 116, 225, 244, 246

HeLa 108, 114–116
lung adeno A549 225, 229–234, 237, 238, 240, 244, 245, 251
lung large cell H157 238–240
lung small cell SW900 and SW1271 238–244, 250
mouse
Ehrlich ascites 31, 36
embryonal P9 34
rat Walker 256 93–102
L-Carnosine induction of neurites in PC12 cells 366
Casein kinase II (CK II). PEST protein destruction and 142
Caviomorphs, significance of MRICp satellite DNA in evolution 268
CDP reductase *see also* Ribonucleotide reductase
IMPY on 440
inhibition
additive 441
reversal of 440
synergistic 441
iron chelating agents on 439
MAIQ on 440
Cell
cycle regulation of histone synthesis 110, 115–117
membrane activation of CANP 161
mechanism 164, 165
nucleus, phosphoinositide metabolism in 83
proliferation
PRL on 371–373
topoisomerase II and 223, 224
Cellular resistance to alkylating agents 211–219
Chemotherapy
alkylating agents 211–219
anti-guanylate, rationale for 429
bone marrow transplantation and 216
CdA against hematologic malignancies 402, 403
enzyme-pattern-targeted 405–431
IMP dehydrogenase as target 408
methotrexate peptides 3–12
polyamine biosynthesis regulation 64
BESm 72–74
DFMO 74
ribonucleotide reductase as target 437–452
tiazofurin
allopurinol and 427, 431
protocols 410, 413–416, 430
toxicity and control of 410, 420
topoisomerase II as target 223
Chicken histone genes 112, 115, 116
Chinese hamster ovary cells VP16 and VM26 mutagenesis 249
Chlorambucil-glutathione conjugate 217
2-Chloro-2′-deoxyadenosine (CdA)
chemotherapy 402
toxicity to human cell lines 401
lymphocyte specificity 400–402
p-Chloromercuriphenylsulfonate (pCMS) on drug transport 21, 22
Chromatin
causes of structural variation 107, 117
function, significance of lipids in 88, 89
Chromatosome 108, 111
CisPt II (Cis platinum)
cytotoxicity to podophyllin-analog resistant cells 244
resistance mechanism 212
synergism with VP16 245, 246
Citrate levels in rat liver, acetate on 321
Citrate synthase (EC 4.1.3.7) 321
Clinical aspects of dialysis solutions 314–318, 326, 327, 332, 333, 336–339
Coformycin, allantoin formation and 304
cytotoxicity to podophyllin-analog resistant cells 244
Cycloheximide on effector-binding subunit of ribonucleotide reductase 438
Cyclophosphamide
clinical characteristics 216
metabolism of 212, 213
resistance to 212
prediction of 217
resistant L1210/Cy 213
resistant P388 215
Cyclosporine on PRL action 372–374
Cysteine proteinases
domain of CANP homology 161–164
propeptide 163
Cytidine metabolism drug combinations on 448
Cytosolic NAD reduction by acetate 322, 323,337
Cytosolic purine 5′-nucleotidase (EC 3.1.3.5) 297–310
2,3-DPG on 299
in adenine nucleotide degradation 297, 298
human erythrocytes
ADP on 303
alkalinization on 308
AMP on 302, 303
ATP on 302, 303
dATP on 303
2,3-DPG stimulation 309
glucose deprivation on 308

GMP on 302, 303
GTP on 303
IMP on 302, 303
Pi on 303
on dATP sequestration 396
preparation 299
rat liver
ADP on 301
AMP hydrolyzing activity measurement 304
AMP on 301
ATP on 301
combination of effectors on 307
GTP on 301
IMP on 301
Pi on 301
under intracellular conditions 307

Decarboxylated *S*-adenosylmethionine
DFMO on 69
in polyamine biosynthesis 43, 57–59
Deoxyadenosine (dAdo)
block of DNA repair 398
immunosuppressive analogs 400
in synergistic inhibition of cell growth 443–445
inhibition of T and B lymphoblasts 396
toxicity to T lymphocytes 397
metabolic sequence 397, 398
Deoxycoformycin
-assisted dAdo toxicity 397
inhibition of adenosine deaminase 396, 442
on adenosine production in alkalinized cells 305, 306
on adenosine production in glucose-deprived cells 306
Deoxycytidine kinase (EC 2.7.1.74) in lymphoblasts dAdo toxicity and 396
Deoxycytidylate deaminase (EC 3.5.4.12) in DNA synthetic pathway 449
Deoxyguanosine in synergistic inhibition of cell growth 443, 446, 447
Desferal inhibition of L1210 cell growth 442
synergistic 444, 445
Demethylepipodophyllotoxins *see also* Etoposide (VP16) and Teniposide (VM26)
as topoisomerase II inhibitors 224
Dexamethasone
activation of Na^+/H^+ antiporter 127
labeling of rat hepatocyte protein 279
on transfected 3T3 cells 124–126
TAT induction by 279
H-7 on 280–285
H-8 on 280–282
polypeptide growth factors on 280, 281, 285
protein kinase inhibitors on 280–282, 285
Diacylglycerol (DG) 127
on protein kinase C 83
Dialdehyde derivatives of inosine, adenosine, inhibition of ribonucleotide reductase 439
N^6,2′-*O*-Dibutyryladenosine 3′,5′-cyclic monophosphate (Bt_2cAMP)
induction of neurites in PC12 cells 359, 360
synergism with NGF 361
TAT induction H-7 and H-8 on 282
Didemnin B on PRL binding 373
Diethylaminobenzaldehyde (DEAB) inhibition of aldehyde dehydrogenase 215
Diethylnitrosamine (DEN) initiation of hepatic neoplasia 377, 381
Differentiation
by tiazofurin *in vivo* 417–424
in human refractory AML by tiazofurin 417–424, 428, 431
of PC12 cells 357–369
cAMP levels and 368
by L-carnosine 366, 369
by NGF 358–360, 368
by retinoic acid 367, 369
by serotonin 362, 363, 369
phosphoinositide synthesis and 87, 88
α-Difluoromethylornithine (DFMO)
chemotherapy 74
growth inhibition by 65
SPD analogs on 68
induced depletion of PUT and SPD 65
on AdoMet DC activity 47, 48, 50, 51, 53, 59
on ODC activity 62
on polyamine biosynthesis, comparison with BES 69
mRNA preparation and 45
Dihydrofolate reductase (DHFR, EC 1.5.1.3)
covalent incorporation of APA-[^{125}I]ASA-lys 20, 27
MTX binding 15
site 20
photoaffinity labeling 19, 20
modification by 25
purification 19
2,3-Dihydro-1H-imidazol[1,2-b]pyrazole (IMPY)
inhibition
of L1210 cell growth 442
synergistic 445, 446

of ribonucleotide reductase 439
on CDP and ADP reductases 440
Dihydroxyacetone-P levels in rat liver, acetate on 319
Dimethylsulfoxide (DMSO) induction of hemoglobin synthesis 84, 87
1,2-Racemic Dioctanoylglycerol, glucocorticoid potency amplification 277, 278, 280, 285
1,2-Diolein activation of protein kinase C 288, 290
DNA *see also* Satellites
AT rich, L1 association 269
Bam HI 3.4 family 266
Bam HI 3.7 restriction family 260, 261, 266
Bam HI 4.0 family criteria 266
cloning and transformation 259
content of haploid genome 257
double strand breaks
alkaline elution assays for 225, 230
by podophyllin analogs 231, 232, 236, 237
toxicity correlation 238
illegitimate recombination and 248, 249
Eco RI 1.5 263
family criteria 266
LICp and 268
LINE association 264
satellite I and 265, 267
termination codons in pGPE 1.5 and 265
Eco RI 4.0 restriction family 261, 266
LIs function question 269, 270
repair, drug resistance and 212
repetitive sequences
classification principles 257
LINES
families 258, 260–266
homology between species 258
lengths of 259
ORFs and reverse transcriptases 259, 269
MRICp family 266, 268, 270
SINES
transposable elements and 258
types of 258
tandem repeats 261, 262
replication, topoisomerase II and 224
single strand breaks
alkaline elution assays for 225, 230
by podophyllin analogs 227, 231, 232, 234, 237
in lymphocytes
excision-repair balance 398–400
repair blockage by dAdo 397, 398
repair, poly(ADP)ribose synthesis and 399, 400
synthesis
PRL induction of 374, 375, 377, 379, 380
rates
dGTP rate limitation 407, 408
dNTP concentration on 450–452
ribonucleotide reductase in 438
cDNA for AdoMet DC, cloning of 45, 46, 48, 49
DNA polymerase (EC 2.7.7.7)
Michaelis–Menten equation for 450, 451
relationship to ribonucleotide reductase 449
Drosophila homeotic proteins
degradation 136, 140
PEST regions in 143, 144
monotonous amino acid tracts and 145
Drug
-binding proteins 23–27
receptors in L1210 cells 25
resistance
acquired in human carcinoma cell lines 244
naive, podophyllotoxin analogs and 243, 244
transport into L1210 cells 21, 22
Duck histone
H1 sequence 110, 111
H3 112
H5 gene fragment 108, 116

Ectopic calcification from parenteral fluids 317, 325, 326
conditions for 333
Ecto-protein kinase
assay 358
in PC12 cells 368
Eicosanoid (*see also* Prostaglandins) production by liver cells 198–200
Encephalopathy from D-lactate administration 317
Endothelial cells
changes on culturing 196
conditioned medium 197, 198
aspirin on 200, 201
eicosanoid production by 198–200
isolation from rat liver 194
receptors 193
Epidermal growth factor (EGF)
glucocorticoid potency amplification 277, 278
on TAT induction 280, 285

Erythrocyte CANP inhibitor *see* Calcium activated neutral protease inhibitor
Erythro-9-(2-hydroxyl-3nonyl)adenine (EHNA)
in synergistic inhibition of cell growth 443–445
inhibition of adenosine deaminase 443
Etoposide (VP16, Vepeside)
analogs 228
cytotoxicity 227
DNA single strand breaks 227, 229, 231
structure–activity relationships 224
structures 228
antitumor activity 230
cell influx and efflux 226, 243
in resistant cells 245
cytotoxicity
DNA strand break correlation 240
resistant cell lines and 244, 246
synergism with cis-PtII 246
DNA
double strand breaks by 231, 232, 248
single strand breaks by 231, 232, 234
MeVP comparison 234, 235
on A549 cells 229, 231
-resistant cells, monoadduct repair and 246
topoisomerase inhibition 225, 233, 248, 249
mutagenic aspects 249
Evolution and preservation of ORFs in DNA 269

2-F-araATP inhibition of ribonucleotide reductase 439, 443, 444
2-F-dATP inhibition of ribonucleotide reductase 439, 443, 444
Fatty acid synthetase, cachectin on 100
Fibrinogen production 193
Fibroblast growth factor on TAT induction 280
Fluorescence microscopy bile salt studies 176, 182, 185–187
2-Fluoroadenine arabinoside
cell growth inhibition 443
synergistic 445
2-Fluorodeoxyadenosine
cell growth inhibition 443
synergistic 445
Folate
-binding site of dehydrogenase-cyclohydrolase 31
transport into L1210 cells 16, 26
1-Formylisoquinoline thiosemicarbazone (IQ) inhibition of ribonucleotide reductases 440
Formyltetrahydrofolate synthetase (EC 6.3.4.3), reaction catalyzed 32
Fostriecin inhibition of topoisomerase II 250
Friend cells *see* Mouse erythroleukemia
Fructose
on hepatic ATP 304
on rat liver cytosolic 5′-nucleotidase 307
Fructose 1,6-biphosphatase (FBPase)
PEST conditionality 140
PEST region exposure 141
Fructose 1,6-di-P levels in rat liver, acetate on 319
Fructose 6-P levels in rat liver, acetate on 319

β-Galactosidase site-directed mutagenesis and 136, 137
Gene
amplification, possible role of topoisomerase II 251, 252
codings for histones 110
libraries
construction 260
core histones from 112
guinea-pig DNA-λcharon 30 Eco R1 263
screening 108
tandem repetition data 262
organization tandem repeats and 261, 262
structure, histone synthesis and 115, 116
Glucagon TAT induction, inhibition by H-7 and H-8 282
Glucocorticoid action modulators 277–285
classification 277, 278
H-7 on 282
Glucocorticoid receptors in hepatocytes H-7 on 283
Gluconeogenesis induced by acetate 323, 324
Glucose
deprivation
on adenosine, AMP and ATP levels in erythrocytes 306
on erythrocyte 5′-nucleotidase 308
homeostasis in rats, high acetate levels on 318, 319, 323, 324
output
from liver
aspirin on 202, 203
glucagon on 202, 203, 205
PGD_2 on 202, 205

PMA on 193, 201–204
measurement of 195
parenchymal cells stimulation 200–202
Glucose 6-P levels in rat liver, acetate on 319
γ-Glutamyltranspeptidase (GGTase, EC 2.3.2.2) in detection of hepatic neoplasia 377, 381
Glutathione
levels and alkylating agent resistance 217
neutralization of alkylating agents 219
reaction with
aziridine 217
chlorambucil 217
melphalan 217, 218
phosphoramide mustard 217
xenobiotics 217
Glutathione-S-transferase (EC 2.5.1.18)
alkylating agents resistance and 212, 217–219
glutathione-melphalan conjugation and 217, 218
glutathione reaction with xenobiotics and 217
isozymes 219
Glycerate 2,3-bisphosphate (2,3-DPG) on purine 5′-nucleotidase 299, 302, 303
Glycogenolysis, PMA on 193, 201–205
Glycolytic P-esters levels in rat liver, acetate on 325
GMP on cytosolic purine 5′-nucleotidase 302, 303
Gossypol on PRL-stimulated mitogenesis 382
GTP
biological functions 407
concentration
GPRT activity on 406, 427, 428
in hepatomas tiazofurin on 411
in human leukemic leukocytes tiazofurin on 416, 417
in human refractory AML tiazofurin on 418, 421, 422, 424, 425, 428, 429
on differentiation *in vivo* 428
in hepatocytes
anoxia induced loss 304
fructose induced loss 304
on cytosolic purine 5′-nucleotidase 301, 303, 307
pool and cell proliferation 408
GTPase (EC 3.1.5.1)
activity of $p21^{ras}$ proteins 121
adenylate cyclase and ADP-ribosyltransferase relations 366
NGF on 357, 365
dGTP
as positive effector in ribonucleotide reductase reaction 437
rate-limiting role in DNA synthesis 407, 408
Guanazole inhibition of ribonucleotide reductase 439
Guanine nucleotides levels in rat liver, acetate on 325
Guanosine phosphoribosyltransferase (GPRT, EC 2.4.2.8)
allopurinol on activity 429
in leukemic leukocytes 412
in normal leukocytes 412
in refractory AML, competitive inhibition by hypoxanthine 426, 427
role in GTP biosynthesis 406
substrate concentration on activity 426
Guanylate synthesis
as target for chemotherapy 427–431
relative increase during proliferation 407–409
Guinea pig repetitive DNAs 257–270
Bam HI 3.7 260, 261, 266
Bam HI 4.0 266
Eco RI 1.5 262–268
Eco RI 4.0 260, 261, 266
isopycnic satellites 258
L1 line L1Cp properties 268, 269

Ha-ras *see* Oncogene
Hepatic uptake common transport systems 183, 184
Hepatobiliary transport
intact liver requirement 185
systems for uptake and secretion 178, 187
Hepatocytes, rat *see also* Parenchymal cells
ajmalin derivative uptake 185
amphipathic compound transport 173–189
antamanide derivative uptake 184
bile salt, uptake by 182
bile salt transport studies and 179, 180
isolation 175
polarity 178, 179
Histidine decarboxylase from *Lactobacillus* 48
Histidine phosphorylation PEST regions and 146
Histone subtypes 107–117
Histones
avian 111
changes during development 112
core 107
from different species and cell types 109

in somatic cells 112
non-allelic variants 112
gene clusters 110, 115, 116
H1 107
conserved octapeptide 109
from different species and cell types 109
oligopeptide repetitions in 109
sequence 110, 111
subspecies 111, 112, 114, 117
H1° 108
in brain 113
in liver 113
induction 114, 115
putative function 114
relation to H5
mRNA 116
sequence 110, 113
H1t 111
H2A 112
H2B 112
H3 112, 115
H4 112, 115
H5 108, 115
relation to H1 112
mRNA 116
sequence 110, 111
Holothuria 111
linker 107
mRNAs 115
synthesis and DNA replication 107
HMG CoA levels in rat liver, acetate on 320
HMG CoA reductase degradation 136, 141
Hormones
catabolic, effect of acetate and 323, 324
hepatotrophic PRL as 372, 379
lactogenic on PKC 383
Horseradish peroxidase (HRP) marker for hPLAP 348
Human
adenocarcinoma LS-180, MTDH in 34
breast carcinoma MCF-7, MTDH in 34
colon carcinoma HCT 116 cells
culture 225
drug-resistant sub-lines 225
development and cross reaction 244, 246
cutaneous melanoma M4, MTDH in 34
erythrocytes
alkalinization on 305, 306
AMP degradation in 304
preparation 299
growth hormone on PKC 383
HeLa cells
growth and RNA isolation 108
induction of H1° in 114
polyadenylated RNA 115, 116
immunodeficiency virus (HIV) T lymphocyte attrition and 395, 400
large cell lung carcinoma H157
VM26 and VP16 cytotoxicity 238, 239
VM26 and VP16 induced DNA strand breaks 240
leukemia
CCRF-CEM MTDH in 34
myeloid, HEL, HL-60, K562, ML-1 cells sensitivities to hydroxycyclophosphamide 216
refractory AML
allopurinol on 424
GPRT activity 421, 424
IMP dehydrogenase in blast cells 414–416, 422, 424
tiazofurin chemotherapy trials 411, 416
tiazofurin induced differentiation in 417–419, 422–424
tiazofurin and allopurinol chemotherapy 405–431
leukocytes
leukemic
GMP synthase activity 429
GPRT activity 412
GTP concentrations tiazofurin on 417
IMP dehydrogenase activity 412
TAD production from tiazofurin 413, 417, 430
normal
GPRT activity 412
IMP dehydrogenase activity 412
TAD production from tiazofurin 413, 430
liver MTDH from 35
liver tumors
GGTase as marker 381
lung adenocarcinoma A549 cells
culture 225
podophyllin analogs cytotoxicity 229, 237, 238, 244, 251
podophyllin analogs DNA strand break induction 231, 232, 234, 237, 238, 251
resistant sublines 225
development and cross resistance 244, 245
VP16 and VM26 induced strand breaks 240
lung cancers hPLAP as marker 351, 352
lymphocytes
adenosine deoxynucleotide metabolism in 395–403

CdA toxicity 401
deoxyadenosine toxicity 396
metabolic changes and 398
NAD metabolism in 398
response to DNA strand breaks 399, 400
lymphoid malignancies CdA chemotherapy 402
mammary tumors PRL on 374
osteosarcoma MG-63 MTDH in 34
ovarian cancers hPLAP as marker 345, 350
effect of treatment 352
pancreatic cancers hPLAP as marker 351, 352
placental alkaline phosphatase (hPLAP)
antibody purification 346, 353
as human tumor marker
lung 351, 352
ovarian 345, 350, 352
pancreatic 351, 352
seminoma 345, 351
cross-reactivity with intestinal form 345
heat sensitivity elimination 350
detection in sera 350–352
enzyme immunoassays 346
competition 348, 349
endogenous 348–350
sandwich 348, 349
sensitivity curves 349
immunohistological localization 347, 350, 352
properties of isolated isoenzyme 347, 348
purification 346
preparative isoelectric focussing 347, 353
Regan isoenzyme 345
variants 345
seminomas hPLAP as marker 345, 351
small cell lung carcinoma SW900 and SW1271 cells
culture 225
cytotoxicity of
podophyllotoxin analogs 244
various anticancer drugs 244
VP16 and VM26 238, 239
DNA monoadduct repair rates 247
DNA strand breaks by VP16 and VM26 240, 242, 250
nuclear localization of resistance phenotype 241
VP16 influx and efflux 243
Humoral factors, lipid metabolism and 100
4-Hydroperoxycyclophosphamide
in vitro model for cyclophosphamide 213, 214
on human myeloid leukemia cell lines 216
resistance of bone marrow precursors 216
Hydrophobic anions binding to sinusoidal membrane polypeptides 182
N-Hydroxy-*N'*-aminoguanidine (HAG) derivatives
inhibition of L1210 cell growth 442, 446
inhibition of ribonucleotide reductase 439–442
Hydroxybenzohydroxamic acid derivatives
inhibition of ribonucleotide reductase 439
3-Hydroxybutyrate levels in rat liver, acetate on 321
5-Hydroxytryptophan on PC12 cells 364
Hydroxyurea
inhibition of L1210 cell growth 441
synergistic 444, 445
inhibition of ribonucleotide reductase 439
Hyperparathyroidism following hyperphosphatemia 317, 326
Hyperphosphatemia after dialysis 317, 319, 325, 326, 339
Hyperprolactinemia, human neoplasia and 381, 384
Hypophysectomy on ODC after partial hepatectomy 373
Hypotension following acetate administration 316
Hypoxanthine
levels in human refractory AML 426
production in erythrocytes 304, 305
purine catabolism and 298
Hypoxanthine-guanine phosphoribosyltransferase (HGPRT, EC 2.4.2.8) allopurinol action and 425
Hypoxia following acetate administration 316

Immunodeficiency
ADA and 395
disease progression 395
Immunodetection of hPLAP in tumor tissues 345–353
IMP on cytosolic purine 5'-nucleotidase 301–303
IMP dehydrogenase (IMPDH, IMP dehydrogenase, EC 1.1.1.205)
as target for chemotherapy 408

half-life after tiazofurin treatment 422
in AML 405
in hepatomas 406, 409
in leukemic leukocytes 412
in normal leukocytes 412. 430
inhibition by TAD 409, 414, 415
kinetic properties in hepatoma 414, 415
kinetic properties in human ML blast cells 415
purification of 413, 414, 430
rate-limiting enzyme of GTP synthesis 408, 409
substrate concentrations on activity 426
transformation- and progression-linked increase in neoplasia 429
Inorganic pyrophosphatase (EC 3.6.1.1) activity *in vivo* 327
Inositolphosphates
analysis 122, 123
Ha-ras on 124
Inositol triphosphate (IP_3) release of Ca^{2+} 125
Interleukin 1
on lipoprotein lipase 100
stimulation of production by acetate 316, 318, 338
5-Iodotubericidin
inhibition of adenosine kinase 304
on adenosine production in alkalinized cells 305, 306
on adenosine production in glucose-deprived cells 306
Isocitrate levels in rat liver, acetate on 321
Isoquinolinesulfonamides inhibition of protein kinase C 277, 281, 292
1-(5-Isoquinoline-sulfonyl)-2-methylpiperazine (H-7)
inhibition of protein kinase C 277, 281
on glucocorticoid action process 277, 278, 282, 283
dose-dependence 284, 285
on TAT induction 280–282
1-Isoquinolylmethylene-*N*-hydroxy-*N'*-aminoguanidine (HAG-IQ)
inhibition of ribonucleotide reductase 440, 448
synergistic inhibition of L1210 cell growth with dGuo/AGuo 447
with MAIQ 448

2-Ketoglutarate levels in rat liver, acetate on 321
Kupffer cells *see* Rat

D,L-Lactate use in parenteral fluids 314, 315
toxicity from 317, 326, 338
L-Lactate levels in rat liver, acetate on 319
Lactation in rats
concomitant with tumor growth 95
Lipid metabolism during 94
protection against tumor growth effects 101
tumor growth on 93–102
Leukocytes *see* Human leukocytes
Lipid
accumulation
effect of tumor 100, 101
during lactation 97, 98
-mediated signal transduction 83–90
cell differentiation and 89
role of protein kinase C 88, 89
metabolism
during lactation 94
humoral factors and 100
tumor growth on 93
Lipogenesis
during lactation 94, 95
malnutrition on 93
tumor growth and 93–95, 97
Lipoprotein uptake by non-endothelial cells 193
Lipoprotein lipase (EC 3.1.1.3)
inhibition by cachectin 100
inhibition by interleukin 1 100
lactation and 94, 101
reaction catalyzed and function 93
tumor growth and 93, 94, 98
Liposomes, interaction of CANP 154, 160, 161
LTD_4 antagonist LY170198
inhibition of protein kinase C 291, 292
structure 290
B-Lymphoblasts cytosolic 5'-nucleotidase in 396
T-Lymphoblasts dAdo phosphorylating activities in 396, 397
Lymphocytes PRL receptors on 373
T-Lymphocytes
CdA toxicity 400, 401
dAdo toxicity 397
Lysine distribution in histones 109, 111
in H1° 113, 114

α_2-Macroglobulin production 193
Macropain (protease) from rabbit reticulocytes 142
Magnesium
accumulation in liver mitochondria 328
mechanism 329

levels in rat liver, acetate on 325, 339
Malate levels in rat liver, acetate on 321
Malonyl CoA levels in rat liver, acetate on 320
Mammary gland, PRL on 372
Megapain (protease) from rabbit reticulocytes 142
Melatonin on PC12 cells 364
Melphalan
glutathione conjugate 217, 218
hydroxylated 218
resistance to 211
Membrane
canalicular 173
photoaffinity labeling of polypeptides 178, 179, 181
plasma
isolation 175
photoaffinity labeling 178–180
sinusoidal, polypeptides
overlapping binding specificity 182, 188
photoaffinity labeling 177–181
transport systems in hepatocytes 173
Membrane 5′-nucleotidase (5′-ribonucleotide phosphohydrolase, EC 3.1.3.5)
characterization 297
DL-2-Mercaptomethyl-3-guanidoethylthiopropionic acid
inhibition of CP-N 9
Metabolic
acidosis after dialysis 317
bone disease after dialysis 317
Methotrexate (MTX)
analogs 15
binding, photoaffinity probes 15–27
binding to DHFR 15, 20
carrier protein, photoaffinity labeling 23–25
chemotherapy, effectiveness and limitations 3
cleavage by CP-G 7
effect of pCMS on transport 21, 22
modifications to 3
α-peptides
clinical possibilities 11
cytotoxicity 9
enzymatic hydrolysis of 5–9, 11
structure 4
synthesis 4
TLC of 5
photoaffinity analogs 17, 25
resistance 17, 23
transport
inhibition into L1210 cells 16
inhibitor 25
interaction with photoaffinity analogs 22, 27
Methotrexate-alanine (MTX-ala)
HPLC of 5, 6
hydrolysis by CP-A 6–8
cytotoxicity and 9, 10
hydrolysis by CP-B 8
structure 4
synthesis 4, 5
Methotrexate-arginine (MTX-arg)
hydrolysis by CP-N 6, 8, 9
structure 4
Methotrexate-aspartate (MTX-asp)
hydrolysis by CP-A 6, 8
structure 4
5-Methoxytryptamine on PC12 cells 363, 364
Methyl malonyl CoA levels in rat liver, acetate on 320
N-[2-(Methylamino)ethyl]-5-isoquinolenesulfonamide (H-8)
inhibition of cyclic nucleotide-dependent protein kinases 281
on TAT induction 280–282
4-Methyl-5-amino-1-formylisoquinoline thiosemicarbazone (MAIQ)
inhibition of L1210 cell growth 441
on CDP and ADP reductases 440
with HAG-IQ on L1210 growth 448
Methylenetetrahydrofolate cyclohydralase (EC 3.5.4.9)
NADP inhibition 35
reaction catalyzed 32
Methylenetetrahydrofolate dehydrogenase (MTDH, EC 1.5.1.5)
antibodies to 36, 37
di- and tri-functional forms compared 36, 37
N-terminal sequences 36
NAD-dependent 31
cellular localization 37, 38
distribution in various cell lines 34
Mg^{2+} dependence 35
polyclonal antibody detection 36
purification 33
NADP-dependent 31, 32, 35
distribution in various cells 34
from yeast 36
metabolic role 37
purification from human liver 33, 35
properties of 35
reaction catalyzed 31, 32
Methylglyoxal-bis(guanylhydrazone) (MGBG) on AdoMet DC 45, 47, 48, 50, 51, 59, 60
α-Methylornithine on ODC activity 62

5-Methyltetrahydrofolate (5-MeFAH$_4$) transport system in L1210 cells 16, 26
5-Methyl-5′-thioadenosine
on AdoMet DC 51
polyamine biosynthesis and 57, 58
Mitochondrial
membrane, free Ca^{2+} gradients across 330–333
membrane, pH uniformity across 336
NAD oxidation by acetate 322, 323, 332, 338
pathways, effect of acetate on metabolites 321, 336, 337
pH, maximum Ca^{2+} concentration and 334–336
pyrophosphate accumulation 327–330
Mitogenesis, PRL stimulation, cyclic nucleotide inhibition of 375
Mitomycin A structure 245
Mitomycin C
cytotoxicity to podophyllin-analog resistant cells 244
resistant cells, monoadduct repair and 247
structure 245
Mouse
Ehrlich ascites, NAD-dependent methylene tetrahydrofolate dehydrogenase in 31, 36
embryo fibroblast 3T3 cells
MTDH in 34
-L1, lipolysis in 100
NIH, cytosolic Ca^{2+} determinations 123, 124
NIH, dexamethasone treatment 123
SV, AdoMet DC levels in 49–51
embryonal carcinoma P9, MTDH in 34
erythroleukemia, Friend cells
clone 707 hemoglobin synthesis induction in 84, 87
H1° induction in 115
fibroblast BN/2 MTDH in 34
histone H3 112
leukemia L1210 cells
ascites *in vivo* BESm antileukemic activity 72, 73
growth inhibition
by deoxyguanosine 446, 447
by fluoroanalogs 445
by HAG derivatives 442, 447, 448
by hydroxyurea 441
by IMPY 442. 446
by MAIQ 441, 448
reversal by Desferal 442
synergistic 2 drug 445, 449
synergistic 3 drug 445–447
synergistic 4 drug 444
labeling with APA-[^{125}I]ASA-lys 18, 20, 21, 26
MTX
carrier protein, photoaffinity labeling 23–26
α-peptides on 9, 10
-sensitive and resistant lines 17, 23
transport into 16, 21, 22
plasma membrane albumin association 26
plasma membrane drug receptors 25
polyamine analogs on 64
growth inhibition and polyamine depletion 68
structure–function relations 68
resistant sublines (Cy) 213
aldehyde dehydrogenase levels in 214
leukemia P388 cyclophosphamide resistant subline Cy 215
lymphoma L5178Y cells VM26 mutagenesis 249, 250
lymphoma YAC cells
culture 33
methylenetetrahydrofolate dehydrogenases in 34
mammary tumor virus (MMTV), LTR-Ha-ras transfection 124
mastocytoma P815 MTDH in 34
T-cell lymphoma EL4 MTDH in 34
ts85 cell line PEST proteins in 141
Myomorphs, evolutionary separation from caviomorphs 268

Na^+/H^+-antiporter
Ha-ras activation 127
protein kinase C control 127
NAD^+
cell death from depletion after DNA damage 400, 403
levels in lymphocytes
dAdo on 397, 398
rate limitation on synthesis 399
metabolism in human lymphocytes 398
half-life measurements 399
NADPH in ribonucleotide reductase reduction 437, 438
Negative effectors (dATP, dGTP, dTTP) inhibition of ribonucleotide reductase 439
Nerve growth factor (NGF)
induction of neurites in PC12 cells 359, 360, 368

isolation 358, 359
on adenylate cyclase 365, 368
on cAMP levels 361
on second messengers 357
on TAT induction 280
properties and function 357
protein phosphorylation and 357
regulation of differentiation 357–369
relation to adenylate cyclase system 361
synergism with Bt_2cAMP 361
synergism with serotonin 363
Nicotinamide protection of lymphocytes from dAdo 398
Nicotinamide phosphoribosyltransferase (EC 2.4.2.12)
in pyridine nucleotide cycle 399
rate limitation for NAD^+ 399
{*N*-[7-(4-Nitrobenzo-2-oxa-1,3-diazol)]-3β-amino-7α, 12α-dihydroxy-5β-cholan-24-oyl}-2-aminoethanesulfonic acid
fluorescence microscopy and 176
[^{3}H] labeled synthesis 174
in bile salt transport studies 188
structure 182
uptake by isolated hepatocytes 185
Nitrogen mustards, resistance to 211, 212, 217
Nitrosoureas, resistance to 211, 217
NMN : ATP adenyltransferase (EC 2.7.7.1) in pyridine nucleotide cycle 399
Nucleoside diphosphate kinase (EC 2.7.4.6) in DNA synthetic pathway 449
5′-Nucleotidase
cytosolic *see* Cytosolic
lysosomal 297
membrane *see* Membrane

Octapeptide conserved in H1 histones 109, 110, 113
Oligoadenylates metabolism, NGF on 357
Oligopeptide repeated motifs in H1 histones 109, 110
Oncogene Ha-ras
growth stimulation mechanism 129
on intracellular Ca^{2+} 122, 125–127, 129
on intracellular pH 122, 127, 128
on phosphatidylinositol metabolism 121–129
proto-oncogene comparison 124–129
Ornithine on polyamine synthesis 61
Ornithine decarboxylase (L-ornithine carboxy-lyase, ODC, EC 4.1.1.17)
amino acid sequences
mouse 147
trypanosome 147
yeast 147
antizyme 61, 63
biological properties 58
degradation 136
factors affecting decrease 59, 60
factors affecting increase 59, 62
half-life 58, 62
induction by phorbol esters 374
partial hepatectomy on 373
PEST regions and 146, 147
polyamine analogs on 65, 69, 70
BES 67, 71
BESm 72
effect of substituent location 68
polyamine metabolism and 43
phenobarbital on 380
PRL induction of 372, 379, 380, 383
cyclosporin on 372, 374
product regulation 58, 59, 61
reaction catalyzed 57
regulation by exogenous polyamines 60, 61, 71
regulation sensitivity 71
regulatory mechanisms 61, 72
table of 62
mRNA 62
Oxaloacetate levels in rat liver, acetate on 321
Oxoglutarate transaminase (EC 2.6.1.5) Walker carcinoma on 99

L-PAM on L1210 cells 213
Parenchymal cells *see* Rat
Parenteral fluids
acetate-containing, complications from 316
consideration for optimal therapy 336
history of development 314, 338
Peritoneal fibrosis after dialysis 317
PEST
ornithine decarboxylase and 146
protein degradation 136, 141, 142
regions
as degradation signals 144
conditional signals for proteolysis 140
exposure mechanisms 141
in homeotic proteins 143
latent, monotonous amino acid tracts and 145
masking 140
positions in rapidly degraded proteins 139
properties of 138
surface loops 139, 140
tyrosine sulfation and 142

sequences and proteolysis 135, 138
trypanosome enzyme and 146
Phalloidin binding to sinusoidal membrane polypeptides 183
Phallotoxins, hepatoma cell insensitivity 173
Phenobarbital induction of hepatic tumors 380
L-Phenylalanine inhibition of hPLAP 348
Pheochromocytoma PC12 cells
culture 358
ecto-protein kinase activity in 368
neurite induction
by Bt_2cAMP 359, 360
by L-carnosine 366
by NGF 359, 360
by retinoic acid 367
by serotonin 362, 363
site of action 365
theophylline on 360, 361
Phorbol esters
analogs, activation of protein kinase C 290
as tumor promoters 384
binding site in protein kinase C 288
on cell cycle progression 376, 384
on PRL stimulated mitogenesis 382
Phorbol 12-myristate 13-acetate (PMA)
inhibition of differentiation 84, 87
on glucose output from perfused liver 201, 202
on glycogenolysis 193, 201–205
on PGD_2 production 204
on protein kinase C 202
tumor promoting activity 193, 203
Phosphatase inhibitors, oncogene products as 144
Phosphatidic acid (PtdOH), ^{32}P labeled synthesis
in Friend cell nuclei 87
in rat liver nuclei 85
Phosphatidylinositol
analysis 122, 133
metabolism 121–129
Ha-ras on turnover 125
stimulation of mitogenic signals 122
on CA^{2+} requirements of CANP 160
Phosphatidylinositol-4-phosphate (PtdInsP) ^{32}P labeled synthesis
in Friend cell nuclei 87
in rat liver nuclei 85
Phosphatidylinositol-4,5-biphosphate ($PtdInsP_2$,PIP_2)
degradation in transformed cells 121, 122, 125
hydrolysis by phospholipase C 127
^{32}P labeled synthesis
differentiation dependence 87, 89, 90
in Friend cell nuclei 87
in rat liver nuclei 85
Phosphatidylserine
activation of protein kinase C 288
on protein kinase C inhibition 291
P-enolpyruvate levels in rat liver, acetate on 319
3-Phosphoglycerate levels in rat liver, acetate on 319
Phosphoinositide metabolism
in cell nucleus 83, 84
phosphorylation 85, 87, 88
Phosphoinositides in Friend cell nuclei, ^{32}P labeled 87
Phospholipase A_2
inhibition and PRL-stimulated mitogenesis 375, 382
stimulation of mammary cell growth 375
Phospholipase C (EC 3.1.4.11)
hydrolysis of inositol phospholipids 83, 127
inhibition and PRL-stimulated mitogenesis 375, 382
regulation 121
Phospholipids
chromatin function and 89, 90
on CANP 160
on isolated nuclei 84
Phosphoramide mustard-glutathione conjugate 217
Phosphorylase a activity
glucose output and 200
in parenchymal cell extracts 196
stimulation by cultured media 197, 206
Phosphorylated intermediates
levels in dialysis patients 326
levels in rat liver, acetate on 325, 339
Phosphorylation
of proteins 195, 197, 198
glucose output and 200
NGF on 357
potential
equilibrium relationships 337
mitochondrial Ca^{2+} gradients and 330–333, 337
Photoaffinity
labeling 175
identification of membrane polypeptides labeled 178–180, 181, 183
of hepatoma cells 186, 188
of MTX carrier protein 23, 25, 26
principles 16, 176, 177
probes of MTX binding 15–27
Phytochrome

PEST region 140
exposure 141
properties 140
Pi
in erythrocytes
alkalinization on 305
glucose deprivation on 306
in hepatocytes, fructose on 304
levels in dialysis patients 326
levels in rat liver, acetate on 325, 339
on cytosolic purine 5'-nucleotidase 301, 303, 307
Plasma membrane drug receptors 25
Plasminogen activator (PA, EC 3.4.21.31)
PRL induction of 372
cyclosporin on 372
TPA induction of 374
Platelet-derived growth factor on TAT induction 280
Podophyllin analogs on A549 cells 229
DNA double strand breaks 231, 232, 236
cytotoxicity and 237
DNA single strand breaks 231, 234, 235
Podophyllotoxin
analogs
cytotoxicity 233
DNA breaks and 233
topoisomerase II inhibition and 233
naive resistance and 243, 244
structures 228
cytotoxicity 227
Polyacrylamide gel electrophoresis in amphipathic compound transport studies 173–189
Polyamine analogs
as cell growth inhibitors 64
bis(ethyl)
structures 67
comparison of effects 70
cellular uptake 65
on AdoMet DC 63
on ODC 62
Polyamine biosynthesis 57–74
antiproliferative strategy 64, 68
BES, BESm, and BEP on 70
DFMO and BES on 69
product suppression 60, 61
regulatory control 58
chemotherapeutic advantages 73, 74
mechanisms 72
sensitivity 71
Polyamines
cellular depletion by analogs 65, 68
mammalian synthetic pathway 43, 44
on AdoMet DC
activity 44, 60, 61, 63
amount 50, 51
on enzyme mRNA 62, 63
on ODC activity 60–62
Polyanions on mitochondrial maximum Ca^{2+} concentration 333
Polymyxin B on PRL-stimulated mitogenesis 382
Polypeptides, bile salt binding 177, 181, 183
Porfiromycin
cell influx, accumulation and efflux 226, 245, 246
structure 245
Positive effectors NTPs in ribonucleotide reductase reactions 437
PPi
levels in dialysis patients, on distribution of metals 327
levels in rat liver, acetate on 325, 339
mitochondrial location 327
on mitochondrial Ca^{2+} and Mg^{2+} concentrations 333
Prolactin (PRL)
assay in serum 378
induction of ODC 372, 373, 379, 380, 384
induction of PA 372, 380
lactogenic effects 371
mammotrophic effects 371
mechanism of action 375, 376
mitogenesis 371–384
in Nb2 cells 374, 379, 381, 382
in rat liver 379, 380
on cellular proliferation 371–373
on protein kinase C 378, 381, 383, 384
on prostate gland 372
promotion of hepatic neoplasia 377, 380, 381
tumor promoting properties 371–384
Proline endopeptidase, PEST protein destruction and 142
Proline feature of PEST region 139
Pro-peptide domain of CANP 162
comparison with other proteases 163, 164
removal on activation 163
Prostaglandins *see also* Eicosanoid
D_2
on phosphorylase a 198
PMA stimulation 202
stimulation of glucose output 200, 202
E_1 on phosphorylase a 198
E_2 on phosphorylase a 198
F 198, 199
12HETE 198, 199
diHETE 198, 199
I_2 198, 199
production by rat liver cells 196, 198–200
TxB_2 198, 199

Prostate gland PRL on 372
Proteases, PESTicide pathways and
  calpain 142
  macropain 142
  megapain 142
  proline endopeptidase 142
Protein kinase C (ATP: protein transphosphorylase, PKC, EC 2.7.1.37)
  assay 278, 288, 289, 378
  Ca^{2+} dependence 289
  control of Na^+/H^+-antiporter 127
  degradation 136, 140
  diacylglycerol activation 127
  1,2-diolein activation 288
  general role 287
  in glucocorticoid action 277, 281, 285
  in nuclear substructures 83, 84
    DG activation of 83
    distinctive forms 86, 87, 90
    distribution 86
    significance in signal transduction 88, 89
  in PRL-mediated proliferation 375, 376
  inhibition by apomorphine 290–292
  inhibition by H-7 281
  inhibition by LY170198 290–292
  inhibition by trifluoperizine 290–292
  lactogenic hormones on 383
  NGF on 357, 359
  phorbol esters on 382, 383
  phosphatidylserine activation 288
  PMA stimulation of 202
  PRL on 378, 381, 383, 384
  purification 287, 288
  retinoic acid on 367
  translocation on activation 383
Protein kinase C inhibitors 287–293
  on PRL stimulated mitogenesis 382
Proteins
  degradation sequence-specific determinants 135
  E3 136
  N-end rule 137
  $p21^{ras}$
    activation of Na^+/H^+ antiporter 127, 129
    cell response to growth factors and 128
    in transfected 3T3 cells 124
    properties 121
  PEST regions
    phosphorylation sites and 139
    rapidly degraded 139
    unassembled 144
  phosphorylation in parenchymal cells 195
  S-peptide in 137
  synthesis in rat liver cells 195, 196, 206
Proteolysis
  PEST regions and 139, 140
  signals for 137
Proteolytic regulation of enzyme levels 135–148
Pseudouridyl-*N*-oleoylphosphamate glucocorticoid sensitivity amplifier 277, 278
Purine biosynthesis
  methylene dehydrogenases in 31–38
  role of NAD-dependent dehydrogenases 33
Purine nucleoside phosphorylase (EC 2.4.2.1)
  in nucleotide degradation pathway 298
  inhibition by 8-aminoguanosine 443
Purine nucleotides concentration measurements 300
Putrescine (PUT)
  on AdoMet DC activity 44, 60, 61
  on AdoMet DC subunit formation 46, 47, 51
  on ODC activity 60, 61
  polyamine synthesis and 43, 44, 57
Putrescine aminopropyltransferase (EC 2.5.1.16) polyamine metabolism and 43
Pyridoxal phosphate inhibition of ribonucleotide reductase 439
Pyruvate levels in rat liver, acetate on 319

Quercetin on PRL-stimulated mitogenesis 382
Quinacrine on PRL-stimulated mitogenesis 382
Quipazine on PC12 cells 363, 364

Rat
  carcinoma, Walker 256
    adipose tissue lipolysis and 100
    effect on lactation 93–102
      pre- and post-partum implantation comparison 96, 100–102
    enzyme inhibition by 99, 100
  growth hormone on protein kinase C 383
  hepatocytes
    assays of polypeptide growth factors in 278
    dephosphorylation in 303–305
    preparation 299
    TAT induction in 279, 280
      H-7 and H-8 on 282

TGF$_\beta$ on 281
hepatoma 3924A
guanylate synthesis during proliferation 407, 409
IMP dehydrogenase activity 411
IMP dehydrogenase purification 413, 430
hepatoma AS 30D
bile salt uptake deficiency 185, 186, 189
cell transport deficiency 173
drug resistance 174, 186
photoaffinity labeling 188
hepatoma Morris 7288C bile salt uptake deficiency 186
hepatoma Morris 7777 175
absence of hepatobiliary transport 186, 187, 189
hepatoma Morris 9618A 175
bile salt binding in 186, 187, 189
hepatoma Morris TC5123 175
bile salt binding in 186, 189
hepatoma Reuber H-35 bile salt uptake deficiency 186
Kupffer cells
bacterial endotoxin activation 193
changes on culturing 196
conditioned medium from 197, 198
aspirin on 200, 201
eicosanoid production by 198–200
isolation from liver 194
PMA stimulation of PGD_2 202
liver
cells
cycle progression PRL on 373–375
eicosanoid production by 198
isolation and incubation 194–196
detoxication function 186
DNA synthesis PRL on 375, 377, 379
enzymes, retrodifferentiation response to tumor 99
initiation of preneoplasia 377
metabolism regulation by intercellular communication 193–206
mitochondria, pyrophosphate accumulation in 327–330
mitogenesis by PRL 379
nuclei
immunoblotting 85, 86
isolation 84
parity of nuclear matrix 84, 85
synthesis of ^{32}P labeled polyphosphoinositides in 85
perfused
glucose output, aspirin, glucagon, PGD_2 and PMA on 201–205
PMA on PGD_2 production 204
slips
bile salt transport studies 179, 180
preparation 175
lymphoma Nb2 cells
culture 376
PRL dependent mitogenesis 374, 379
phospholipases and 375
TPA on 375, 381
thymocyte markers in 382
myeloid leukemia LBN, ALDH content 215
parenchymal cells *see also* Hepatocytes
changes on culturing 196
eicosanoid production by 198–200
glucose output 195
glucagon on 204
PMA on 204
stimulation by conditioned media 200, 201
stimulation by PGD_2 202
isolation from liver 194
protein phosphorylation in 195
conditioned media on 197, 198
prostaglandins on 197, 198
protein synthesis, conditioned media on 197
role in liver metabolism 193
prostate AdoMet DC
DFMO on 50
cDNA 45, 48
MGBG on 50
preparation 45, 47
pup growth, effect of maternal tumor 96
Receptor ligand interaction, photoaffinity labeling and 177
Restriction enzymes (EC 3.1.23.-) 109
Retinoic acid
induction of neurites in PC12 cells 367
on protein kinase C 367
Ribonucleotide reductase (RR, EC 1.17.4.1) *see also* ADP and CDP reductases
as chemotherapeutic target 437–452
degradation 136
inhibition by dATP, significance of 397
inhibitors of 438, 439
combinations, on L1210 growth 444
specific properties of 439
protein subunits
effector-binding component 438
inhibitors of 439
non-heme iron component 438
inhibitors of 439, 448, 449
reaction catalyzed 437, 438
relation to DNA polymerase 449
target potential and 451

Ringer's lactate, development of electrolyte fluids and 314, 315, 336
RNA synthesis in lymphocytes, dAdo on 397, 398
mRNA polyadenylation and histone synthesis 115–117
Rodentia
  evolution and LINE speciation 264
  MRICp satellite uniqueness 268
  repetitive DNA studies 258
RR-2
  DNA alkylation and single strand breaks 247
  structure 245

Satellite I DNA (guinea pig)
  clones in Bam H1 charon 30 library 264
  Eco RI 1.5 sequences in 265, 267
  Hind I restriction fragment 265, 267
  L1Cp overlap 269
  LINE association 259, 265
  sequence polymorphism 258
Satellite II DNA (guinea pig)
  repetitive unit 266
  restriction enzyme analysis 258
Satellite III DNA (guinea pig) relation to II 258
Satellite 3808 bp DNA (bovine) 266
Satellite MRICp DNA (guinea pig) 266, 270
  chromosome localization 268
Second messenger
  for PRL action 375, 376, 381
  neuronal differentiation and 368
  NGF on 357
Serotonin
  induction of neurites in PC12 cells 362, 363
  on adenylate cyclase 365
  receptor sites 363, 364
  reduction of cell proliferation 362, 364
  relation to NGF action 358
Serum
  growth factors on Ha-ras treated cells 125
  PRL assay 378
Sodium acetate
  administration, consequences of 313–339
  contraindications for dialysis 324
  metabolism, net stoichiometry 315
  on CoA metabolism and fatty acid synthesis 320, 328
  on free Ca^{2+} gradients 337
  on intermediates of glycolysis 319
  on ionic composition of tissues 324
  on metabolites of mitochondrial pathways in rat 321
  on Pi in rat liver 324, 325
  on PPi accumulation in hepatocyte mitochondria 328, 329
  on redox states in rat liver 322, 338
  similarity of effects to catabolic hormones 323
  uncoupling of mitochondrial Ca^{2+} gradients 330–333, 337
  use in parenteral fluids 314
    toxicity from 316, 317
Spermatagonia, histone H3 in 112
Spermatocytes, histones H1 and H2 in 112, 113
Spermatogenesis
  core histones and 112
  histone H1t and 111
Spermidine (SPD)
  analogs 64, 65
    aliphatic chain length variation 68
    BES on ODC activity 67–71
    design principles 66
    structure–function relationships 66, 68
    terminal and central substitutions compared 67, 68
  on AdoMet activity 60, 61
  on AdoMet DC synthesis 50, 51
  on ODC activity 60, 61, 71
  polyamine biosynthesis and 43, 44, 57
Spermidine aminopropyltransferase *see* Spermine synthase
Spermidine synthase (EC 2.5.1.16)
  AdoDATO inhibition of 59
  role in polyamine biosynthesis 57, 58
Spermine (SPM)
  analogs 64, 66
    BESm 67
  on AdoMet DC
    activity 60, 61
    synthesis 50, 51
  on ODC activity 60, 61
  polyamine biosynthesis and 43, 44, 57
Spermine synthase (EC 2.5.1.22) polyamine biosynthesis and 43, 57, 58
Succinyl CoA levels in rat liver, acetate on 320, 321
Synergistic inhibition by
  8-aminoguanosine 443, 446, 447
  Bt_2cAMP 361
  CisPtII 245, 246
  deoxyadenosine 443, 446, 447
  Desferal 442, 444, 445
  EHNA 443–445
  2-fluoroadenine arabinoside 445
  2-fluoroadenosine 445

HAG IQ 442, 444–449
hydroxyurea 444–445
IMPY 441, 445, 446
MAIQ 448
NGF 361
serotonin 363
VP16 245, 246

TAD, tiazofurin adenine dinucleotide
formation
degradation and 410
in leukemic leukocytes 413, 416, 429, 430
in normal leukocytes 413, 430
inhibition of IMPDH 414, 415, 427
mode of action 414, 415
Tamoxifen on PRL stimulated mitogenesis 382
Teniposide (VM26)
cytotoxicity
DNA strand break correlation 240
resistant cell lines and 244
DNA double strand breaks 231, 232, 248
comparison with MeVM 236, 237
DNA single strand breaks 227, 229, 231, 232, 234
comparison with MeVM 234, 235, 237
on A549 cells 229, 231
structure 228
-activity relation 224
topoisomerase inhibition 225, 233, 248
mutagenic aspects 249
12-*o*-Tetradecanoylphorbol-13-acetate (TPA)
enhancement of PRL stimulated mitogenesis 381, 382
glucocorticoid potency amplification 277, 278, 280, 285
indication of hepatic ODC and PA 374
on cell proliferation 382
on protein kinase C 375, 382–384
Tetrahymena thermophila H1-type protein 112
Tetrazolium dye in cell kill assay 9
Theophylline
on cAMP levels 360, 361
on neurite induction in PC12 cells 360
Thiosemicarbazone derivatives inhibition of ribonucleotide reductase 439
ThioTEPA on L1210 cells 213
Thymidylate synthase (EC 2.1.1.45) in DNA synthetic pathway 449, 451
Tiazofurin
-allopurinol combination therapy in refractory AML 427
induced differentiation in refractory AML 417–419, 422–424, 428
on refractory AML, clinical trials 416
sensitivity of human leukemic cells 412, 413
structure and metabolism 410
Topoisomerase II (EC 5.99.1.3)
activated 224
copies per cell 224
DNA strand-passing activity 230
inhibition of 233
gene amplification and 251, 252
inhibition 223–252
assay 226
model for 248–251
inhibitors
classes of 223
fostriecin 250
resistance to 224
sister chromatid exchange and 250
VM26 225, 231
VP16 225, 231
levels
contrasting drug sensitivities and 248
in mustard-resistant Burkitt's lymphoma 246, 247
in transformed cells 251
temperature-sensitive 223
Transformed cell lines, NAD-dependent methylenetetrahydrofolate dehydrogenase in1 31, 33, 34
Transforming growth factor β (TGF-β)
glucocorticoid action suppression 277, 278
on TAT induction, dose-dependence 280–282
Transport-defective cells, MTX resistance and 23, 27
Triacylglycerol
cycle in lipid metabolism 93
lactation on 94
tumor growth on 93
Trifluoperizine
inhibition of protein kinase C 291, 292
dose dependency 292
phospholipid interference and 292
structure 290
Triglyceride levels in dialysis patients 320, 338
Triolein[1-^{14}C] lipid absorption measurements 97, 98
Tryptamine on PC12 cells 363, 364
Tryptophan on PC12 cells 364
dTTP as positive effector in ribonucleotide reductase reaction 438
Tumor growth in rats
concomitant with lactation 95

significance of pre-partum implantation 98–101
on food intake 96
on lipid absorption 98
on lipid metabolism 93, 94
on maternal carcass fat 96
on pup growth 96
on tissue lipogenesis 97
Tyrosine aminotransferase (TAT, EC 2.6.1.5)
degradation 136
induction
by Bt_2cAMP, H-7 and H-8 on 282
by dexamethasone 279, 280
growth factors on 280, 285
H-7 on 282–284
H-8 on 282
suppression 277
Tyrosine sulfation, PEST sites and 142

Ubiquitin
-dependent proteolysis 136, 142
PEST destruction and 141
relation to calpastatin 143
Uricase (EC 1.7.3.3) significance in nucleotide degradation terminus 298

Verapamil on PRL-stimulated mitogenesis 382
VM26 *see* Teniposide
VP16 *see* Etoposide

Xanthine oxidase (EC 1.2.3.2)
in nucleotide degradation pathway 298
tissue location 298
Xenobiotics
glutathione reaction with 217
uptake into hepatocytes 174, 186

Yeast
cell cycle proteins, degradation 136
DNA-binding proteins PEST regions in 143, 144
methylenetetrahydrofolate dehydrogenases 36, 37
regulatory protein PEST region 145, 147
Yeast fructose-1,6-biphosphatase (FBP, EC 3.1.3.11) degradation 136